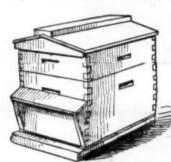


country each colony of bees, as ordinarily brought through the Winter, will be found during its early Spring flights to contain only a small part of the adult workers

necessary to take fair advantage of any honey yield that is to follow. If an important honey-flow occurs early in the season, it is impossible to secure the full advantage of it. The bees to gather the honey are lacking.

The young workers do not, normally,

even though honey be plentiful in the flowers, enter the field as gatherers before they are about two weeks old: adding to this the three weeks required



1. -ORDINARY SINGLE-WALLED HIVE.

the egg to the appearance of the imago, or perfect insect, we see that all eggs, to produce workers for a given harvest, must be laid five weeks or more before that harvest begins. But as the amount of brood which may be developed at one time in a hive is to a great extent limited not alone by the fecundity of the queen, but also by the supply of food, be number of bees to cover the brood, and the temperature about the broodnest, it is evident that the five weeks required to get one generation of bees ready for the field will not suffice to render the hive suitably populous for a given harvest. It is not at all difficult to have queens whose fecundity is even greater han the ability, early in the Spring, of any colony to care for their eggs and developing larvæ and pupæ. Nor will the careful bee-keeper neglect the second point mentioned, and let the colony lack for food. But

THE OTHER CONDITIONS

which limit the increase of population are not so easy to meet. We may house our bees or pack warmth-retaining material about the brood-nests, so as to keep the temperature moderately warm and as even as possible, and may thus favor brood-rearing. But we find, practically, that the only way to secure the desired number of bees in each hive for a given harvest is to see that brood-rearing is going on at a rapid rate some time previous to the five weeks' limit noted. other words, three weeks or more must be added to this period in order to produce workers in sufficient numbers to care for the main brood which is to develop into the field-bees for the given harvest. Thus our hives, all of which contain at the opening of the Spring comparatively

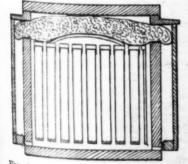


Fig. 2 USUAL WINTER ARRANGEMENT-CHAFF CUSHION WITH OUTSIDE WINTER-

few bees besides those which went into Winter quarters, and which therefore are too old to avail much as gatherers, must,

C.

ROF

N THE COLDER should be kept up without interruption portions of our as long as it is expected that the workers country each colocan be utilized in the given flow.

WHITE CLOVER

being, in our middle latitudes, an important yield which usually begins early in June, it follows from the above that our hives must be well stocked with brood toward the end of March. It has been argued by many whose experience it has always seemed to me should have taught them better, that early broodrearing was disadvantageous; some __perhaps merely for the sake of the notoriety to be gained by being quoted as differing from the majority-have even gone so far as to say that brood-rearing should not be begun before May 1st in our Northern States. It is plain from the facts stated shove that such a plan could only contemplate the securing of a crop of honey in July or later, and would lead to great disappointment in localities whose main honey-flow comes earlier, and where no Midsummer or Fall yield secure. But in most localities in these States there are, aside from these later yields, usually

TWO GOOD HONEY-FLOWS

before Midsummer; namely, that from fruit blossoms and that from white clover, just mentioned; in some places a third one is added—that from tulip trees (Liriodendron tulipifera) called in some localities poplar and in others whitewood trees. Where these occur there is no reason why the full advantage from all of them should not be taken, yet I venture that not one bee-keeper in twenty realizes how far he is from fully utilizing these earlier honey-flows-especially that from fruit bloom. When we are obliged to take time after the middle or latter part of April to develop strength in a colony, in order to have it ready for a harvest, the early honey-

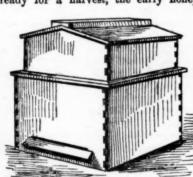


FIG. 3. A DOUBLE-WALLED, CHAFF-PACKED flow passes, with no return beyond what

it furnishes toward building up. SUCCESSFUL WINTERING

is, then, the first essential toward securing the full advantage from an early honey vield. And by successful wintering mean that the colonies ought to reach the earlier honey yield in condition to take full advantage of it; that is, in such condition as regards numbers and health as they are ordinarily found after this

early yield has passed. Let us see what course nature pursues in preparing her willing subjects-the honey-bees-to pass successfully the ordeal of Winter and enter upon a season of prosperity. Perhaps we can profit hy imitating the plans of this ancient dame, who is supposed to have been wise even in the long-ago ages when our remotest ancestors were but inert mole

As a matter of fact, strong colonies of bees located in hollow trees, or in log gums, or box hives, and whose combs are therefore undisturbed in their natural arrangement, if well provisioned, and so constructed as to be fairly protected from extremes of weather and to permit the escape of surplus moisture, while at the same time retaining during the colder portions of the year as much as possible of the natural heat generated by the bodies of the bees, are, barring natural accidents trickles down over the combs and bees. of the bees, are, barring natural accidents or provisions having no connection with the above conditions, always in excellent selves unable to withstand a low tem-

the end that more and better fruits and seeds should be borne, and, second, the collection and elaboration of a valuable unfavorable season has prevented their stimulation with thin food, at night, long as

ARE DRY.

into practically the same condition as agency. those box-hive colonies I have taken as examples above; indeed, if we fully understand those conditions we can be more sure with frame than with box hives that which has resulted from the foregoing

sweet. I say always in excellent condi- securing an abundance of stores, or what without permitting any loss of heat, and tion, for if the conditions named above they may have obtained is perhaps not without manipulation nor disturbance, are present, the colony will withstand so located that severe weather will find will not induce flying out during unseaour coldest Winters without freezing. them able to reach it. Or the bees may sonable weather. The stores in the Nor will it starve if well provisioned, have failed to find the most suitable combs being ample, brood-rearing will for that implies an abundance of good habitation, such as would properly prostores suitably disposed for the bees to tect them from inclement weather and reach them during any kind of weather; permit evaporation without great loss of nor will the inclemency of the weather heat, yet give them pure air. All such cause the colony to become diseased as causes, unaided by man, combine to exterminate thousands upon thousands of THE BEES AND THEIR HABITATION colonies every Winter; and man, with his interference in the brood-chamber of the colony and the surrounding con-Colonies in frame hives can be put ditions, is often another destructive

> DETAILS AS TO THE PLAN OF WINTER-ING

they are uniformly and exactly complied considerations and from my successes and failures of over a quarter of a Someone might argue that even century-much of the time in very

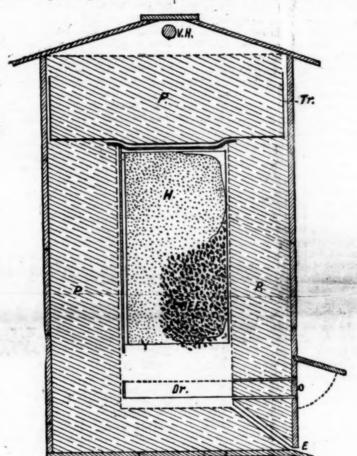


FIG. 5.-COLONY OF BEES PREPARED FOR WINTER. Bs, Bees; H, honey; P, P, P, packing; Tr, tray with cloth bottom; Vh, ventilating-hole; E, entrance; Dr, drawer. Scale, i in.—l inch.

nature, such conditions are not always simple, and all who will may apply it. troverts what I have just claimed; for Nature, in working out her laws, puragainst our proteges. She looks well to all her creatures, and only excep-tional merit will cause her to let one kind flourish to the exclusion of others, so nicely is the balance adjusted, and if no soon have overrun all. Perhaps

A STUDY OF THESE SAME NATURAL AGENCIES

which are set as a limit to bee-life will also be a good lesson-will show us what we must fight constantly and what to avoid. In a state of nature we find colonies that go into Winter with queens decrepit, either prematurely or after years of good service, rendering them unable at the most critical period-late

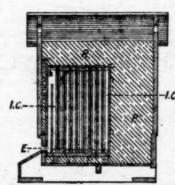


FIG. 4.-H. D. DAVIS' NEW ENGLAND HIVE. Winter arrangement: Ic, inner case; P, pack-ing; E, entrance.

Winter and early Spring—to keep up the population of the hive; or, again, repeated swarming may have unduly reduced their numbers. Such weak colo nies may not be able to keep up sufficient heat to drive off the moisture sur rendering their food sour and thembe well stocked with brood eight to ten tow. Moreover, this brood-rearing to the bees they contain, weeks before the opening of the honey-tow. Moreover, this brood-rearing to the above conditions, always in excellent below in this time above conditions, always in excellent below in the dampers of the bees are confined to it for any length of time, or the dampness of the bees themselves, com-

when the preparation of the bees for | cold climates-cannot be given here their most trying season is left wholly to in full. The principle, however, is established by our good mother as do Indeed, it is nothing but what all most favor the bees. They die. Ad- have been trying to do—namely, to mitted. Yet this by no means con- keep the bees warm and dry, furnish them with good food always accessible, and with pure air. This posely sets certain destructive forces over | can be carried out either indoors or outdoors, but cellar wintering introduces into the problem the possibility of complication, and for the majority, therefore, I feel sure the outdoor plan is best. For the North, however, all of the ordichecks had been provided the bees would nary single-walled hives are, for this purpose, an abomination not to be tolerated

at all. Most of the double-walled hives should be put in a category near to those just mentioned. The brood-combs upon which the bees are to be wintered and which contain the Winter stores should be surrounded closely on all sides, above and below, with six or more inches (according to the severity of the climate) of porous yet warmth-retaining materialwoolen goods and newspapers are best; there must be several inches of space between the material that is over the bees and the roof of the hive, and this space must be freely ventilated, but not a drop of water must be allowed to reach the packing from outside the hive. The combs must be six or more inches above the bottom packing; the entrance or flight-hole must be wide, so as to give ample lower ventilation, and, where it reaches the alighting board, preferably 10 inches below the bottoms of the combs; between the latter and the flighthole there should be a screen, to prevent drafts of air from rushing against the combs. The food should be well-ripened honey or properly made sirup, and plenty of it, stored mostly above the cluster of bees; hence, if frames of the Langstroth' shape are used they should be on end for the Winter. It is best to have a good supply of pollen in the combs. Vigorus queens and plenty of bees bred the latter part of the active season are essen-The colony is to be put into this condition before severe freezing, and, if the best results are expected, not dis-turbed after that until settled and mod-

As the apple bloom comes in May, STIMULATIVE PEEDING

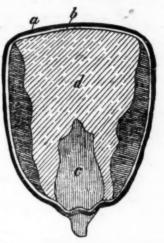
erately warm Spring weather has re-

for this harvest may commence in March. in that region about \$100.

go on apace, and apple-blossoms will find us ready with the bees for the harvest.

COMPOSITION OF CORN.

New Jersey Agricultural Bulletin.



The average of a large number of analyses shows that 100 pounds of the dry matter of corn contain:

Crude ash 1.68 Carbohydrates (chiefly starch) 78.75

A glance at these figures shows that corn is made up chiefly of the class carbohydrates, or starch.

The constituent contained in corn next in amount to carbohydrates is protein-a collective term which includes all of the albuminoids—and to which the name "gluten" is commonly ap-

The accompanying enlarged out of a corn, or maze, kernel will assist in locating the four distinct parts.

a is a husk or skin, which covers the removed constitute the bran, and contain practically all of the crude fiber of the whole grain.

b is a layer of gluten cells, which lies immediately underneath the husk; it is yellow in color, and cannot be readily separated from the remainder of the kernel. This part is the richest of any in gluten.

c is the germ, which is readily distinguished by its position and form; it also contains gluten, though it is particularly rich in oil and mineral constituents.

The large portion d, is compose chiefly of starch; the dark color indicates the yellow, flinty part, in which the starch-holding cells are more closely compacted.

"Intense" Farming in the South. As an instance of the difference be ween the old slavery-days farming and farming by the employment of more modern methods and improved machinery in the South, the following illustration is given: G. T. Douglass, a young farmer of Mecklenburg County, N. C., in 1893 planted 13 acres of land in cotton, and harvested six bales by the old method of farming. Last year he planted three acres of the same land in otten with the purpose of cultivating it intensely" as an experiment. Result: On three of the 13 acres, which yielded him but five bales of cotton the year before, he harvested four bales of cotton. Difference: Under the old system of cultivation his land raised less than one- however, is not the rule. Infection half a bale of cotton to the acre : under the improved methods it raised 13 bales. This practice of "intense" farming is on a route of travel, and thence the evil rapidly spreading in this State, and the is multiplied, for the most part, by contendency is decidedly towards smaller tact between individual animals or small and better-cultivated farms.

How Celery Should be Kept.

Celery may be kept in the best condition in a cellar, packed in barrels, with the roots as they were taken from the ground. Some of the top leaves may be trimmed off, and the plants should be packed closely in the barrel. so as to exclude the light. If some soil is taken up with the roots, the celery will go on blanching without shrinking and keep succulent all the Winter. Or the plants may be kept in the ground. where they were grown, if they are banked up with earth high enough to exclude the frost, and may be taken way the quality is improved.

Black walnut is a scarce wood these days, but old farms about Philadelphia still afford to the cabinet maker noble

ENGLISH SPARROWS.

A Use Found for Them at

Last.

BY DR. J. H. PORTER, OF THE SMITHSONIAN.

When it was proposed to introduce English sparrows into the United States, ornithologists warned the projectors of that enterprise of its probable consequences. The latter, however, being practical men, ignored these theoretical objections and promptly carried out their plan. At present the practical question is how we are to get rid of them.

Formerly it was confidently expected that they would combine with our native birds to check the ravages of plant-eating insects. What they really did was to drive away insectivorous groups, and take part with the pests in their work of destruction. Moreover, when transferred to a continent, this species seems to enlarge its great natural power of getting along in life, and as that ability is exercised to the disadvantage of most creatures with which it comes in contact, a strong reaction against these Ishmaelites soon set in, and the revilings their conduct provoked grew greater with the sparrows' rapidly-widening range. Far-mers and cultivators of all kinds said they were utterly detrimental. Nevertheless, there is some reason for thinking that this hearty and comprehensive execration is not altogether merited:

No sparrow will look at a web-worm, hairy caterpillar, or any insect with hard wing-cases and body-plates; but many varieties are destroyed while young and tender, although not to the same extent as seeds, buds and shoots. The writer has also had an opportunity to observe that these birds are active enemies of a cattle scourge which already causes much trouble, and threatens to be more erious hereafter.

As its name indicates,

THE TEXAS HORN-FLY

is believed to have originated in that whole kernel; it consists of two distinct State. Whether or not the fact be as it layers, the outer and inner, which when is given by common report, nothing conerning this insect came to the author's notice either in the border States of Mexico or those grazing districts lying between the Rio Grande and Pacific On the other hand, it is said that this fly ean be traced back to the site indicated from any northern point where it has appeared. This destructive parasite is of a small size and black. It has powerful jaws, and settles around the horns of cattle, cutting away hair and skin until great excoriation is often produced. Animals thus attacked are necessarily restless and soon become ill. Fever supervening upon irritation and pain involves functional derangements Diminished vigor with loss of weight are sure to follow, while death from inflammation of the brain membranes not in-

frequently ensues. The writer had an opportunity to observe this insect's dissemination, and its consequences, from the Pennsylvania line to southwestern Georgia. In certain instances the fly's presence was a direct result from an importation of Texas stock, but more frequently this breed was unknown in those regions where the horn-fly was found. It attacks all kinds of domesticated cattle, and where the pest has been carried by them for long distances, it was in the form of eggs deposited upon their coats, which were thus transported, and subsequently developed in new situations.

PRIMARY AND DIRECT DISPERSAL. spreads most widely by indirect means. Some center of contagion is established groups. In that way it is propagated in all directions. One or more cows or steers which carry ova inoculate, so to speak, others with whom they associate r casually meet. They likewise, when the time comes, enable larger or smaller swarms to originate. These, under their proper forms, may transport themselves to contiguous herds, but probably never go very far on their own account, or without being accompanied by the creatures upon whom they prey.

An illustration of this process afforded by the appearance of horn-flies in West Virginia. No Texas cattle are connected with them there; their introduction was due to a gradual propagation out as may be needed for use. In this by the mode pointed out. In the same way this infection spread eastward into the Shenandoah Valley, across mountain barriers, that the fly by itself could not have surmounted, because it is customary on both sides to turn out stock during either quarter met.

There are numbers of ASSOCIATIONS IN NATURE,

for the most part existing between strik-ingly dissimilar beings, and generally founded upon an obvious mutual ad vantage. Some, as for example that of crocodiles, with the birds that enter and cleanse their mouths from parasites, must have been exceedingly difficult to

establish, but there is no reason to think



this was usually the case. All except that connection under consideration seem to be of immemorial antiquity. The latter may be said to have begun yesterday. It is not intimate, and, perhaps, never will become so. English sparrows are not known to accompany cattle for the purpose of feeding upon these at-tendant flies. When the latter happen to be encountered they are destroyed. much in the same way that so-called cow blackbirds free the skins of the grazing stock from ticks, and in case an extensive sore surrounds their horns, it is quite possible that they may aggravate the injury already inflicted. Another point connected with this recent association is that as the fly advances northward, any connection between English sparrows and cattle which depends upon this insect's presence must be more and more sect's presence must be more and more interrupted by increasing cold. Practically the birds themselves rise superior to vicissitudes of almost all kinds by means of adaptative powers which are well nigh unequalled. On the other hand, human needs insure protection to the means that have fire infect. to the species that horn-flies infest. Wherever climate, however, does not bar their distribution, these nuisances bid fair to spread, and in all such provinces the presence of so active and energetic an enemy as the sparrow is, no doubt, upon the whole, an advantage in this respect to the farmer and grazier.

So far as the writer knows, nothing has been done towards protecting cattle. After they have been seriously injured, the raw surface is in some cases smeared with coal tar. The region attacked is, however, of very limited extent, and among the numerous preparations known to be inimical to insects at large, one would think that effective preventives could be found.

What Corn Fodder Is. The common terms, corn fodder and

stover, have different significations in different localities. The whole stalks after the corn has been husked and gathered are called stover in New England, whence the term has been carried into the West. The meaning of this term in common language, is any supply of food, but agriculturally it is applied to provisions for animals of any kind. It is used in England to signify any coarse forage, as the stubble of a clover field or waste hav that is used for thatching roofs of cattle shelters. It is used in this sense by Shakspere. The word is derived from the French-estover or estovoir, meaning simply any provision. Corn fodder or fodder corn is applied to the whole plant with the ears on. In the South it applies only to the leaves or blades of the plant; the stalks, there usually cut off above the ears, which are left on the stems, to be afterward gathered at any convenient time. are called tops. In general, however, corn fodder is understood to mean the whole stalks after the ears have been gathered from them.

Florida's Great Loss.

The heavy freeze that prevailed all over the South was a terrible blow to the fruit growers of Florida. The total orange crop of the State was estimated by experts at 2,000,000 boxes, few of which had been gathered before the frost. As the average price of these oranges to the consumer was about \$2 per box, this would make a loss of \$4,000,000 on the 2,000,000 boxes which have been destroyed by the frost. The \$4,000,000 loss on the oranges is by no means all; young trees and many of the old ones have been killed. The full extent of this loss cannot be known until Spring.

Mr. M. E. Gillet, one of the largest growers of the State, and head of the Florida Fruit and Vegetable Growers' Association, says: "The blow which the State has received is severe, but by no means fatal. The people of Florida have not lost hope, and they do not prospecimens of the tree. It is said that a black walnut 100 years old will fetch among those hights, where animals from are visited by a heavy frost once in half



Stable Talk.

Do you pay attention to the feet and legs of your horses and colts?

The wind that whistles through the stable blows grain out of the feed bin. .

If you have a good saddle horse, don't drive him in harness. You spoil his

Horse breeders are now finding a market for first-class stock in the Eurobean markets. The man who leaves a clipped horse

stand unblanketed in the wind should be arrested and whipped. It pays to breed good stock. The

time, attention and money expended pays you handsomely in market. There were 31 three-year-olds that took records of 2:20 and better during

1894. Onoqua 2:111, being the fastest. Let breeders aim to produce the best class of horses. Their failures will produce quite enough "general-purpose'

Lockjaw can be produced, even when there is no wound, by exposure to cold, hardships of any kind, and sudden changes of temperature.

To cure scours in a sucking colt stir a pint of wheat flour in balf a pailful of water, then give to the mare to drink, and inside of 48 hours the foal is

The experiment of feeding wheat ground with oats to work horses has been tried with success. The propor tion one bushel of wheat to four of oats, or one-third of wheat by weight.

Men can no longer breed horses haphazard at a profit. The fast and loose methods that have prevailed must be followed by an adherence to strict business principles if success is to be attained

Last season there were 65 two-yearolds credited with trotting in from 2:141 to 2:30. A two-year-old pacer took record of 2:07% against time, and another one of that age got a race record of 2:11.

A great many horses are being exported to England and Scotland this Winter. In one week during December over 300 were shipped, mostly of the road-horse type. Horses of the coacher type are also in demand in Great

Under the present conditions of the horse business the royal road to success is open to; him that succeeds in producing what buvers and consumers demand. road to success.

educe bone and muscle, not fat, hence the feed stuffs best suited for this pur- should exist between men engaged in the pose must be used in preference to corn. which is essentially a fat-forming food, and consequently heating in its action Ground oats and barley are the best muscle-makers, and fed with cut hay and bran and a little linseed meal will give very satisfactory results.

The demand for good, young Kentucky-bred horses will be at its best in two or three years. On nearly every farm there are two or more able-bodied mares, sometimes possessed of exceptionally good points; these mares, if bred to the right kind of a stallion, would hardly fail to produce colts of the stylish, wellformed and speedy kind that are always a salable article in the city markets. Stylish coach horses are always in de-

The climate of England is said to be very trying to American-bred horses, giving them throat affections which affect their wind. Those that are taken over young seem to escape these troubles. Iroquois and Foxhall were taken to Engas yearlings. Pierre Lorrillard gave his brother George \$20,000 for Duke of Magenta after he had run as a three-year-old without being defeated, and took him to England a sound horse, but be never started.

Finely bred, intelligent horses are often very nervous, says The Livery Stable. They are quick to take notice, quick to take alarm, quick to do what seems to them, in moments of sudden terror, necessary to escape from possible harm from something they do not understand. This is why they shy, bolt and run away. A sheet of white paper in the road may seem a yawning chasm; the open front of a baby carriage the jaws of a dragon ready to devour him, and a man on a bicycle some terrifying sort of a flying devil without wings But we find that the moment he become familiar with those things, or any that affright him, and knows what they are, he grows indifferent to them. Therefore, when your horse shies at anything, make him acquainted with it; let him smell it, touch it with his sensitive upper lip and look closely at it.

Wheat contains as much of the essen tial properties in one measured quart as is contained in nearly three measured quarts of oats. Now, as the stomach of the horse is not very large, certainly if the same amount of nourishment can be obtained from one quart of bulk as can be obtained from nearly three quarts in grown-one would naturally suppose required to take care of a useless quantity, thick as desired.

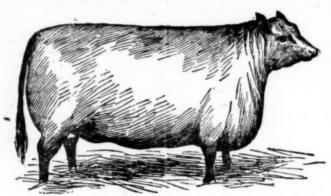
with no resultant benefit to be acquired by digesting it. So far it would seem that one bushel of wheat, ground, mixed with four bushels of oats, all by weight, would be about the proportion to make feeding wheat a success. This would be just one-third wheat and two third oats. At the present price of wheat it makes a cheap feed for horses. It is said, however, that wheat is a much more fattening feed than oats and that horses fed much of it become peculiarly sensitive, take cold easily and are predisposed to founder.

THE COLUMBIAN EXPOSITION.

What Advantage it was to the Breeding of Improved Swine in the United

Read by Jas. Riley, Thoratown, Ind., at meeting of Indiana Swine Breeders' Association.

This subject is of very great importance to every swine breeder and farmer in the United States, as it was the greatest medium of advertising this great industry that we ever had in this country. Prior to the Columbian Exposition only a very small per cent, of the farmers of the United States understood the great benefit of improved swine over the com- in a good thriving condition, and young mon scrub stock. The great majority of sows will stand more feed than old ones,



BENTON BRIDE

farmers all over the country never took | for they should be fed so as to keep them any of the stock papers and knew but growing nicely, and by using the above little about improved swine, but the great Columbian Exposition, with its various can eat and they will not get too fat. attractions, brought the farmers and stock men from all parts of the country. and the swine industry was so splendidly managed by the Board of Managers of the Live Stock Department, that it became one of the chief attractions of the great exposition. Here the farmers and stock men from the North and South, East and West could see the great improve-The highest type of road horse or trotter ment that had been made in swine in the united States; here the breeders could compare notes and lay their plans for be a full feed. If they are fed a full feed.

The morning feed, as a rule, should not be a full feed. If they are fed a full feed.

The indications are that the National feed, as a rule, should not be a full feed. and show that fraternal feeling that same calling. The Exposition was a great educator; it taught the breeders a great many things that they perhaps did not know before. Among the many things demonstrated by the great Exposition I will mention a few:

1. That the United States is native home of the hog. 2. That we need not fear competition from any other country.

3. That the American bred hog was far superior to any other.

The Exposition increased the demand for improved swine fully 100 per cent. and also increased the price to a paying basis. Prior to the Columbian Exposition the prices the farmers were willing to pay for improved swine was so low that t seriously hindered the improvement of swine. The professional breeders could not pay the price asked by the breeders in England and America for the best individual animals and sell their produce and come out clear. This caused a great many breeders to use inferior animals that cost less, but had just as good pedigrees. The breeding of improved swipe is a science, and requires skill and a great deal or slavery and sacrifice to attain success, and the breeder should be

compensated for his labor. The Exposition did a great deal 3 convince the farmers all over the country that the best individual animal was the best investment. Now the almost universal inquiry is for the best, and in many cases they realize the value of the best

ones and are willing to pay for them. Now, this co-operation of the profes sional breeder and farmer for the improvement of swine should be kept the subject-should be discussed at every farmers' institute. If the breeder could get a price for his top pigs that would justify him to weed out fully half his crop of pigs to send to market as pork, and send out nothing for breeders but the very best individual animals, then the improvement of swine would be much more rapid. Then, the farmers should keep a less number of swine and better ones. Many farmers make a great mistake in over-stocking with swine of an inferior quality, a lot of hogs that can be made to weigh 200 at six month sold, or 300 at nine months old, then sell them for the top price in the market, is far more profitable than those that have to be fed 12 to 14 months to

It is almost impossible to cover a square bulk of nature's foods—as they are rail pen with dry straw so well that it can exclude water, but if the straw is much benefit would accrue to the animal dampened as loaded on sled or wagon by thus relieving the stomach from being from the rick, it can be put on the pen as

make them weigh 300 pounds.

feeds you can give them about all they

BROOD SOWS.

Feeding and Care While in Farrow.

Read by T. B. Anders, Shelbyville, Ind., before

The manner in which I take care of

In the first place, I want the sows to

be in a thriving condition when bred.

Then I want to keep them in the same

condition until they farrow their pigs;

and the way to do this is to give them

the range of a pasture field or rye patch,

and when my sows are bred and safe

with pig, I separate them. I turn the

old sows to themselves, as they are apt to

fight the gilts more or less; and I do

this for a further reason: I think the

gilt needs more care and more feed than

the old sow. If the young sow be grow-ing, which is generally the case, she has

a threefold task in hand. She must

sustain herself, grow and develop the

coming generation, and therefore she

needs a little more care and attention

than the old sow. The pregnant sow

requires such nutriment as will all be

used up for the sustenance of the body

for her growth of bone, meat and muscle,

and for the healthy development of the

coming generation; and the feed to do

this with, in my judgment, is corn, oats, shorts and bran. Take one-third corn

and two-thirds oats, and have them

ground very fine, and then take as much

bran and shorts as you have of corn and

oats, and mix them together and feed in

slop. In cold weather I mix my feed

with warm water, so as to have the feed

at a healthful temperature; but too warm

or hot food is not good for the human

stomach, neither for the stomach of a

hog. I never feed heavily enough to

have my sows too fat. What I mean by

too fat, is in a condition suitable for the

butcher's block. I simply want my sows

the brood sow while in farrow is as fol-

I have been very successful with my sows in raising good litters and strong, healthy pigs. I do not discard corn altogether, for I think it the king of all the brood sows but very little corn. In cold weather I feed heavier on corn, so as

to keep up heat and to secure warmth. Brood sows should not be fed more than twice a day-morning and evening. Care should always be taken to have them well bedded, especially when nearing time of farrow, to keep their udders warm, to prevent them from becoming fevered and caking at time of farrow. This way of handling the brood sow may not be the best, but it has been a very satisfactory way for me; at any rate, believe it far superior to the old way of an exclusive corn-feeding system and trusting to luck for pigs.

"BENTON BRIDE"

The Winner of the Elkington Cup at Smithfield.

At the great Annual Cattle Show at Smithfield, England, the prize in the cows and heifers class was carried off by Mr. Clement Stephenson's heifer. Benton Bride," which had previously taken the first prize at Birmingham and was the champion of Scotland. She is of the Aberdeen-Angus breed.

Pen Notes.

A curly-haired pig is just as good, so far as any one really knows, as a straighthaired one, but fashion demands the straight-haired, and fashion rules.

Every pig should get clean food, and even little pigs have the right to be well born. Hogs fed on clean food should gain at least one pound for every four and one-half pounds of grain used; a markean tell whether it is paying to keep them or put his labor to other sources of profit,

Most any variety of the field pea may be profitably grown for pig feed. The Southern does well in all the Southern States, and the Canadian can be grown successfully in any portion of the United States, and hogs fattened upon them make a much finer quality of meat than those that have been fattened upon corn.

The common way of constructing the floors of the pens is unsuitable. If they slope backward from the trough they will be kept wet. That means sickly hogs that do not thrive well. It is better to make the floor slant toward the trough. Twice the profit can be made when the animals lie dry all the while, and besides that their health is much better.

When drafts of wind drive through the pen we must feed against the wastes of the system they cause. It makes no difference how fine the structure, if it does not exclude the driving blasts of wind it is a failure as a shelter for swine. Just as sure as the wind drives directly against or over a lot of hogs in their bed, they will pile up to their injury. If they are given a good bed of dry straw or leaves, and drafts of wind are excluded, they will

AND WOOL. SHEEP

Shearings.

"The people shave driven the sheep killers out of Gongress, and they will keep them out for many years to come.'

There has occurred a shortage in the number of sheep in Great Britain of one and three-quarters of a million head during the past year. To offset this Canada has greatly increased the export of fat sheep. This has been a great encouragement to Canadian farmers.

The monthly magazine, Wool and Mutton, published at Minneapolis, Minn., so ably edited by Geo. F. Wright, has been sold to the Sheep and Swine Breeders' Co., of Minneapolis, and will be continued under the title of Wool, Mutton and Pork, with Mr. P. V. Callins, manager of the Agriculturist Co. and the Skordemannen Co. The first issue under the new management shows no decline in quality. We welcome this journal to our sanctum.

The Chicago commission men at the stock yards refuse to accept consignments of Montana sheep, and like distant points, unless the freight charges are paid by the consignors. This is done because the stock would not pay the charges sometimes, and the commission men were put to great inconvenience, and often financial loss. This rule, although of strange import, is a good one, since it will prevent the shipping of unmerchantable stock. The range flockmasters should learn what the market can take, and in no case to send inferior sheep to market. A few lessons of this kind will do them good.

There is a type of sheep for every spot of earth where water runs and grass grows. It may not always be easy to determine what sort of a sheep can be depended on without an experiment. Therefore, put what is reasonably expected to be able to maintain itself and note carefully the results. Be sure that nature will show the pleasure or displeasure by at once setting about the model she can indorse in the way of a sheep for the surroundings. Remember, that skill and industry can and does modify natural conditions to a limited extent and a breed of sheep can finally be able to adapt themselves that at first could not

Dame nature is a jealous goddess and will not allow to be tampered with in her laws; she will respond to those who woo her patiently and intelligently.

Many sheep farmers are patiently waiting for Copgress to do something that will help them to make their business prosperous. They try to imagine that their own particular ideas on the sheep question are right, and that there is no other practical way.

Another lot of sheep farmers have been trying to do what they could to feeds for hogs, but in soft weather I feed the brood sows but very little corn. In cold weather I feed heavier on corn, so as while the waiting, trusting ones have been kicking up a fuss, and others have been rushing out of the business as fast

their improvement; here the breeders early in the day, they fail to take enough | Congress, at the demands of the people, stand how much less trouble and the ad-In feeding the colts the object is to could become acquainted with each other exercise. At night they should always will enact laws favoring the wool indus- vantage there is in having all come totry, and this is expected to make every thing go on smoothly. But will it? The chances are that it will help the the lambs; they will soon learn to eat rustling, self-dependent sheep man just as much as the old timer who is waiting for his luck to come around again; that the mutton and wool industry will be just as far ahead under protection as it is today under free trade.

An Explanation Honorable.

THE AMERICAN FARMER published an account of the sale of the J. T. Stickney flock of American Merino sheep last Fall at auction, and offered same criticisms at the time that were not very complimentary.

To the public we wish to say, the

Stickney flock was one of the oldest and best, and by the death of the proprietor, and in order to settle up the estate, the whole flock was sold.

A letter from Mr. E. N. Bissell, the President of the Vermont Merino Sheep Breeders' Association, puts a new light upon the transaction. He says: "You say you were very greatly shocked at the low prices the Stickney sheep were sold for. No doubt you refer to the report of a certain breeder, which was mis eading, so I will state the whole. truth about the matter. Previous to the sale the administrator had sold 80 head at private sale to home breeders and to go to South Africa, and at the closingout sale the average for the entire party. including old ewes, small lambs and small rams, was between \$5 and \$6 per head, which was not bad, considering the low price of wool and mutton." *

The Feeling of the Vermont Spanish Merino Sheep Breeders.

Mr. E. N. Bissell, East Shoreham, Vt., writes: "Our best breeders of Spanish or American Merinos are holding to the best of their flocks, and breeding well, believing that at some time in the future they will be rewarded for their perseverance and skill in producing the best breed of sheep on the face of the earth. Only two shipments have been made from the State to foreign countries this Fall, and both of them to Cape Colony, South Africa. One of these was made by C. Sprague and J. S. Wright and consisted of 40 head of rams and ewes. This party left Middleburg some six weeks ago. The other shipment was owned by Chas. R. Witherell & Co., consisting of about 50 head, and shipped from New York Oct. 24, 1894.

" Both shipments were of good size and form, covered with long, dense, bright, iustrous, heavy wool, and of grand quality, and no doubt will prove of great benefit to the wool growers of South Africa."

CARING FOR THE FLOCK.

A Successful Indianian Describes His Methods. Paper read by W. A. Guthrie, Dupont, Ind., be-fore the Indiana Sheep Growers' Association.

We all know the management of sheep largely depends upon the kind of land and locality. Most of my land is rolling and dry.

I can say what few flockmasters can: that is, I have never lost a sheep by dogs and few by disease or other causes

I attribute my success as to disease largely to always selecting my best sheep and selling every sheep that is not per-fect, feeding and salting regularly, and always having plenty of pure water.

The careful breeder will cull out many of his younger ewes that are defective in fleece and form. Some will not be good breeders, will have bad udders, etc. He will not want sheep with a mean head, flat ribs, drooping quarters, ewe neck, and loose fleeces. So far as he can cull out such animals he raises and improves his flock to a higher standard. I usually make two sales; one, of the lambs I wish to dispose of in the Spring, and the other, of the culls in the Fall. divide my sheep I only show the ones I have for sale, so even the culls do not look as badly when separated and placed to themselves.

The selecting of rams is of the greatest importance, as this is half in producing good, healthy lambs. I like breeding to rams two to three years old that have not been run too hard. I think they produce better lambs. I get the best buck that I can; prefer the Hampshire stock, as they breed large, strong lambs, and mark them well, so they are good sellers. A little of the Merino blood in the ewes is no objection to me it makes the fleece close and adds weight to the lamb. When we sell or wean lambs, I like putting the sheep on the poorest pasture. Of course, attention is necessary after weaning, to see that their udders do not gorge: but we find very few have to be milked, as changing to the poor pasture, and they being restless for the want of their lambs, at once arrests the flow of milk. After taking the mothers from their lambs and keeping them on poor pasture for a few weeks, then to turn them on the best pasture for a short time, so by the 1st of September they are improving and in good condition to come in season more rapidly and are more likely to conceive twins.

I have my rams in good condition and keep them up, feeding them the best, and only turn them with the ewes at night. In this way they get most the entire flock with lambs in a remarkably short time. I never allow the ram to remain with my flock longer than five weeks, as the periodic recurrence of the heat is 17 days. If they do not get with lamb at the first copulation, they have the second chance. The period of gestation in the ewe is about five months, or 21 weeks. We know when to expect our lambs, so this gives us quite an advantage, as it will keep one man busy looking after the sheep for a few days. The largest part of the lambs will come the first 10 days. Ewes with twins frequently lose sight of one lamb and may refuse to own it when restored if not attended to at once; so you can under-

I like having a separate place to feed and will grow very fast. When we turn them out, almost the first week in April, to take the grass they are large and make rapid growth. If you breed sheep in this way it will be a common remark among your neighbors how many lambs for the number of sheep, and so near of one size.

I castrate and dock lambs when but few days old. The risk is not so great and they do and sell better.

I have never been troubled with any skin disease or vermin on my sheep. have never tried turnips or other root food, and feed but little hay, as they usually get grass through the Winter, so will not eat a great deal of hay, only when the snow is on the ground.

I shear my sheep soon as the weather is warm enough, and sell the wool at once to some reliable firm. I hire the best man I can to shear my sheep, being very particular to get someone who will kind to the sheep and not clip the skin. I find it cheaper to get an expert. as they handle the fleece nicer and put it in good shape so that it will sell, and the sheep look better after they are

I have been breeding sheep several years and find something new every year in the way of handling them for profit, The trouble, I think, with many of us is we do not take advantage of what we do know, and do not improve our flocks as we should. To make sheep raising a success we must do as in other husinesses be on the alert, keep our eyes open, remember what we see and read, have method in our business, and above all common sense."

Burpee's Farm Annual for 1895.

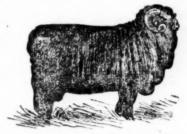
Always fresh and original, Burpee's Fart for 1895 is even better than ever before. The cover is most artistic and beau tiful; lithographed in 10 colors, it shows or the front an attractive bouquet of the nev Sweet Peas, now so fashionable, while on the rear is a bird's-eye view of Fordhook Farm, where many of Burpee's seeds are grown and where there were conducted the past season more than 6,000 trials of vegetable and flowers grown from seed. This Catalogue is really a complete book on seeds, as it contains 174 pages, besides several colored plates and special circulars. The illustrations, 400 in number, are all true to nature, being mostly engraved from photographs, while the de-scriptions of both new and standard seeds are noteworthy for their accuracy. Messrs. W. Atlee Burpee & Co. make the nominal charge of 10c. for the Farm Annual, which is less then actual cost of publication, but will be pleased to mail a copy free to any of our -aders who intend to purchase seeds this Spring. It contains much useful information which cannot be had is any other form, and we strongly recommendall who have occasion to buy seeds to consult the Catalogue of these well-known Philadelphia Seed Growers. of 10c. for the Farm Annual, which is les

Good Farming Sheep Farming. There are lots of poor farmers in the

United States, but there will be a big

gain to the number if flocks are abandoned. Every man that goes out of the sheep business at once loses ground as a farmer. Should the 1,020,000 sheep raisers dispose of their flocks, American agriculture would be crippled for a century, lands would depreciate in fertility and in value, until no man now living would see the end of the calamity. Such a calamity is hardly to be expected, because thousands of sheep farmers say they could not conduct their farms profitably without sheep as a factor of fertility. This opinion is not held generally, however, and I am sorry to say it, because no proposition is so easily proved as no profitable agriculture exists or can exist without sheep culture. It is true that the virgin soils seem capable of profitable farming, but wait a few years and it will be discovered that something is wrong; crop failures occur oftener, the yields are less, and men wonder what is the matter. Wellconducted sheep farms alone are maintaining the fertility of the soil; this is not new, but it is true.

Our illustration of a typical Vermont Spanish or American Merino sheep will serve a double purpose as showing the ideal of the Vermont breeders in 1894, and also shows what style of a Merino sheep catches the eye of the best sheep breeders in South Africa, the Argentina, and Australasia.



BEN HARRISON AT TWO YEARS OLD. st fleece, 274 lbs.; 2d, 30 lbs. 3 oz.; live weight,

The name, Ben Harrison, is a compliment to the great champion of protection and to one of the greatest men that ever sat in the Presidential chair at

It will be seen that the size and shearng qualities of the Vermont Merino has conformed to the demands of the period, while the corrugated skin and the complete covering, as can be seen, is, in the best type, a Vermont standard bred

Sheep Feeding in Illinois.

Prof. Geo. E. Morrow, Illinois Experinent Station, August, 1894, in a bulletin reviews the sbeep feeding industry and points out some of the causes of change and forecasts the business in the great corn-growing State. He says sheep breeding during several recent years was perhaps the most profitable branch of animal industry for many Illinois farmers. Increasing numbers of sheep were brought from ranches and ranges of the West for feeding in the State. Within the last two years, however, there has been a great decline in prices of sheep and wool of all grades, and there is much discouragement among and be ready to increase our flocks after both breeders and feeders.

Fall just past has so lessened the yields of food crops, insuring better values, and farmers will prefer selling their grain and hay crops instead of feeding it to sheep, the future of which is, to say the least, largely problematical. As a rule farmers prefer "a bird in the hand to two in the bush," and with a strong market for corn and hay and rush of lean sheep on the market, they show a decided choice in the former course. Under such circumstances the Illinois farmers do not care to trouble themselves about economies in feeding and more painstaking methods of managing feeding sheep. The low prices of wool cuts off the hope of a fleece that will help to bear the expense and give a nice little sum of money which may be placed to the credit of the

The experience of 44 sheep feeding farmers was solicited on the kind of sheep they found most profitable to handle. It was found that 18 preferred the Shropshire, seven the Southdown, six "Downs," five the Oxford Down, one the Hampshire Down, four the Cotswold, one the Lincoln, two the Merino. and five different cross-bred sheep as the favorite breed, some naming more than

As to time at which lambs are wanted, 14 name February, 16 name March, 22 prefer April, three suggest January, while a number believe in May lambs, and still another likes December lambs. By this it is seen that early mutton lambs have very few advocates.

Thirty-two feeders say they feed ewes and sucking lambs grain, naming corn, oats, wheat and wheat-screenings, and bran. Five do not feed grain in fattening sheep, 23 feed corn, 26 use oats, six like wheat or wheat-screenings, two only are reported as using bran, and four use oil-meal in various combinations. Of the 10 who have fed wheat at some time in their operations, two report poor results. As to feeding grain whole, seven give their opinions in favor of grinding grains for sheep.

On the subject of shelters, 24 use sheds, seven have barns, and one depends on "timber."

Full feeding of sheep is not continued so long as with cattle or hogs. Six name two months or less, nine three months, and seven feed three or four months as a rule.

The shepherd who is also a farmer and has a wheat or rye field, may do this good service by turning in the sheep to nibble the young grain. They will not do much of this, but much more good to it by trampling it into the ground and setting in the roots that have been thrown out by the frost.

MORE THAN \$1.00 for 25 cts. THE MOST BEAUTIFUL FLOWERS.

Rare Seeds at Less than a Quarter their Value.

A special and unequalled offer for trial to gain new customers by a well-known Philadelphia firm of Seed Growers. The varieties embrace the most beautiful novelties, and have been grown at FORDHOOK FARM, famors, as one of the model seed farms of the world.

BURPEE'S **Gem Collection for 1895**

contains one packet each of the new Aster White Branching, with Immense double Chrysanthemens like flowers in great profusion, alone isc. perpkt. New Petamia Burpoe's Defiance Largest Plowering Mixed, flowers measuring over five luches in diameter \$145.00 in cash prizes for the largest biooms eithenest Petunias in the world, never sold for less than perp pkt. Imperial German Pansies Splendid mixed, more than fifty colors of the brightest and best petunias size and great perfection. Marigoid Legion Calcadura than immense light yellow flowers, perfectly Dingsin Coronata, an annual variety, known. Choice Coleus, with grand le brillianthues. New Yellow Dolichos, letty and the new Brazilian Morning the working, quite distinct both in foliage an along a long of the second of the s The ten packets named above, purchased from sor any other seedsmen would amount to \$1.20

packet—The Complete COLLECTION for only 25 CENTS, or five complete collections. BURPEE'S FARM ANNUAL for 1895. a bandsome book of 174 pages, well known "leading American Seed Catalogue," "leading American Seed Catalogue," Bright Book about Seeds, novel and unique If with the silver quarter you enclose two 2cstar thirty cents in stamps altogether) besides the ent lection of seeds and either of the catalogues nam will also send you a superb work of art entitle Year's Work at Fordbook Farm;" this book gives many pictures from photographs of

book gives many pictures from photographs of America's Model Seed Farm. **SWRITE TO-DAY his advertisement will not appear again and scalus was never before offered for so little mon **EFC talugues alone FREE to any address. W. ATLEE BURPEE & CO., Philadelphia, Pa. When writing mention this paper.

Took Courage Again.

Thousands of discouraged sheepmen

have taken fresh courage and are giving greater attention to the breeding and management of their flocks. This new zeal dates to Nov. 6, 1894, when the Tare iff Reform party got set down on by the voters of the United States. It meant something when tariff reform leaders like Wilson, Springer and their kind were overwhelmingly elected to stay at home and find a new job. The election of 1894 was the beginning of an era of prosperity; it marked the sheep industry as well as other lines of business. One point of observation that showed signs of renewed confidence was the inquiry and sale of rams to sheep raisers who had not cared to breed their ewe flocks this year. This was not due to any advance in prices of flock products, for none were noticeable, but to greater confidence, and absolute faith in the party of protection that were again coming into power; not by small majorities, but by overwhelming pluralities.

What the Ohio Wool Growers Think

The Ohio wool growers, at their annual meeting, discussed the situation from every standpoint and issued to the country an address which will be read by sheep raisers of the country with deepest interest. Their views, in convention assembled, on the best thing to do under the disavantages of free wool, is as follows: "The true policy is, fatten the wethers and old ewes; sell them for mutton, keep the breeding ewes, 1896. Let all the people who desire It is believed that the prevailing and prosperity for Americans rather than for foreigners vote for no candidate for Conwho does not favor protection equally to all American industries which by its aid can be made to furnish all needed supplies at fair American prices. The free wool infamy will soon be wiped out."

Prizes for Sheep Raisers.

The Southdown Sheep Breeders' Association of England kindly placed a number of sets of Volumes I., II. and III. of their flock book at the disposal of the American S down Breeders' Association, to be offered as special premiums at some of the leading ate and Provincial Fairs in the United States and Canadas. These volumes have been sent to the following exhibitors as States and Canadas. winners of sweepstakes in 1894 at the fairs

State Fair, Indiana, to U. Privett & Bro., Greensburg, on ram, Model XXII. 5254. State Fair, New York, to Wm. Rockefeller, Tarrytown, on ram, Guildford 7280. State Fair, New York, to F. W. Barrett, Wadsworth on ewe. Winning Lass 7126.

rille, on ram, Marigold 7023. State Fair, Wisconsin, to Geo, McKerrow Sussex, on ram, Avon Beau 5617. Winter Show, London, Ontario, Canada, to Geo. Baker & Sons, Simcoe, on ram, Hero

III 4351.

Winter Show, London, Ontario, Canada, to A. Simenton & Sons, Blackheath, on ewe, Simenton Ewe "27" 6083. Quebec Exposition, Quebec, Ontario, Can-

ada, to Guy Carr, Compton Station, Quebec, on ram, Sir John 5352. In addition to the above, the American thdown Breeders' Association has sent the first four volumes of the American Southdown

Record in payment for special premiums for best Southdown ram and ewe lambs at the following Fairs: State Fair, Indiana, to Watt Wilson, Moncie. State Fair, Nebraska, to W. E. Spicer.

Harvard. State Fair, New York, to F. W. Barrett, Wadsworth. State Fair, Ohio, to W. U. Noble, Brecks-

ville. State Fair, Pennsylvania, to T. M. Hutchison, New Wilmington.
Central Exhibition, Ottawa, Ontario, Canada, to R. Shaw & Sons, Glanford Station.

Western Fair, London, Ontario, Canada, to T. C. Douglas, Galt. Winter Show, London, Ontario, Canada, to

The Most Modern Method.

If you would rather be a straggler than suc cessful in the poultry business you have probably no interest in the Ertel Improved Victor Incubator or Brooder.

It has a great many points in its favor that when mentioned can readily be appreciated. Its tank, heater, and flues are all of copper Its woodwork is handsome and strong. absolutely self-regulating.

Usually from 90 to 100 per cent. of the fertile eggs are hatched with the Victor.

Not only have the Geo, Ertel Co. provided for the hatching of chicks but for their subsequent coddling. Their Improved Victor Brooder is as excellent for its purpose as the

Victor Incubator.

A complete and interesting catalog of both will be sent free upon application to Geo. Ertel Co., Quincy, Ill.

gives him the largest number of eggs. Green bones are not used as exten-

sively as they should be, because grain can be obtained with less difficulty and

at a low cost, but as egg-producing

material, the bone is far superior to

grain; nor does the bone really cost

more than grain in some sections. The

cutting of the bone into available sizes

is now rendered an easy matter, as the

bone-cutter is within the reach of all.

Bones fresh from the butcher have

more or less meat adhering, and the

more of such meat the better, as it will

cost no more per pound than the bone, while the combination of both meat and

bone is almost a perfect food from which

that if the product of each hen can be

increased one egg per week only in

Winter, that one egg will pay for all the

food she can possibly consume, and it therefore pays to feed the substances that

will induce the hens to lay. If the hens

are consuming food and yet are produc-

ing no eggs, they will cause a loss to their owner; and this happens every Winter

on a large number of farms. The hens

receive plenty of food, but not of the proper kind.

A pound of cut green bone is suffi-

cient for 16 hens one day, which means

that one cent will pay for the bone for

that number of fowls. If one quart of

grain be fed at night to 16 hens, and one

pound of bone in the morning, it should

be ample for each day in Winter. In

Summer only bone need be given. Such

a diet provides fat, starch, nitrogen,

phosphates, lime and all the substances

required to enable the hens to lay eggs.

As an egg is worth about three cents in

Winter, it is plain that it is cheaper to

feed bone than grain, as the greater

number of eggs not only reduces the

total cost, but increases the profit as

The bone-cutter is as necessary to the

poultryman as his feed-mill. It enables

him to use an excellent and cheap food,

and gives him a profit where he might

otherwise be compelled to suffer a loss.

It is claimed that a bone-cutter pays for

itself in eggs, and really costs nothing.

Bones are now one of the staple articles

of food for poultry, and no ration should

have them omitted. I They are food,

grit, and lime all combined in one, and

the hens will leave all other foods to re-

ceive the cut bone. If cut fine, even

chicks and ducklings will relish such

excellent food, while turkeys grow

rapidly on it. To meet with success re-

quires the use of the best materials, and

green bone beats all other substances as

If not acquainted with merits of green-

bone, and you would like to be, the T. W. Mann Co., Milford, Mass., will give

Care of Canaries.

favorite. Its dainty plumage and sweet

song make it so. With kind treatment

to, and will often show a great affection

for their mistress. To make the most of

them they need to be petted and talked

to, besides being fed well. Give them

fresh drinking water every day, with

lukewarm water for bathing. Remove

the bath tub as soon as they are through,

because the water remaining in it will

become sour and prove injurious to the

bird's health. The cage should be

cleaned every day. To lessen the work necessary to keep clean cut a piece of

heavy brown paper that will just fit the

bottom of the cage. Sprinkle sand over the paper. By adding a very small

quantity of cayenne pepper in the sand

Feed canary seed regularly; make this the principal food. Give hempseed

occasionally, but rather as a dessert. Crackers or dry bread are good for them,

as are also apples, bits of cabbage or

lettuce. Be careful not to give much

cake or sweet stuff. Be careful that no

food of any kind is allowed to sour or

spoil in the cage. Clean quarters, sound,

nutritious food and pure water will aid

much in maintaining good health. Give

fresh air, but be careful not to hang the

cage in a draft. It is often cruel to

hang the cage in an open window or out

on a porch, where the wind will sweep

through. Many a canary bird has lost

its song owing to the careless way in

In one end of your cage place a thin

board about five inches broad and ex-

tending the full length of the end of the

cage. In one end of this cut out a cir-

cular hole for the nest. It is best to

have the nest of fine wire. Put the top

of the nest on a rlevel with the board

The advantage of this is that the male

will not disturb her so much in feeding,

and after the young birds are hatched out the parents can feed them better and

it will afford a place for them to ex-

Give them pieces of cotton and down

While the hen bird is sitting her mate

from feathers, with which to line their

should feed her, as it is not well for her

feed her, care should be taken to place

Hard-boiled eggs, bread soaked in

cream until soft, boiled and mashed pota-

toes, are all good materials to feed the

young birds; also some green food, such

feed themselves it will be best to move

the male into a separate cage. This will

make him sing oftener and the young

birds will listen and learn to sing much

to leave the nest. If her mate does not

food within her reach daily.

as cabbage, lettuce or apples.

which its cage is hung.

ice may be largely prevented.

The canary is almost an universal

you good points, on application.

food for poultry.

to produce eggs.



CHICKEN MANUFACTURE.

How It is Done in One Locality.

The first thing that strikes a stranger on entering the district of Heathfield. Sussex, is the number of chickens. In Heathfield itself and around, in Warbleton, Shoreham Road, and Cross-in-Hand, the domestic fowl is ubiquitous. He



CRAMMING MACHINE.

yearns the lanes, and the dusty sides of the high roads are diapered with a pattern of chickens' feet; fields, commons, gardens, and not seldom the cottages themselves are pervaded by him. Coops, knocked up of any possible pieces of wood, stand on any possible patch of green by the wayside, and, in the lessfrequented lanes, in the roadway itself.

A Heathfieldite once, asked by a hunting man if any of the farmers around rode to hounds, made answer: " We preserve chickens, not foxes." Heathfield and the adjoining parishes form one vast preserve for poultry. But except the respectable matrons who brood and guard the young families, and here and there in the yards a strutting rooster with a few wives in his train, the fowls times of the year, from the little puffballs that have just broken shell to the hobbledehoy state of chicken youth, they are visible in their thousands. Past this stage they enter the manufacturing yards -the fatting farms.

the everywhere present fowls can supply but a small part of the raw material needed by the fatters for manufacture. The deficit is supplied in two ways. Large numbers of Irish chickens are im-



ported-especially from November to They come over many hundreds of dozens at a time, and at short intervals, mostly from the western parts of the Emerald Isle. The higglers supply the rest. These men drive through the country round, and far into Kent and Surrey-35 or 40 miles in a day-picking up a few birds at this farm, a few at that cottage, and bring them to the fatting farms. Fatting is the staple industry of the place, and the exact process of the manufacture is to be seen nowhere

Tradition says that a man once came o Heathfield who had been engaged in



the Norfolk turkey breeding business, experimented with okickens, so chicken fatting has gone on in the dis-

trict for some 50 years, growing gradually into the prosperous industry it now And it is little likely that it could be carried on in the same way in many other places. High up on the Sussex hills, Heathfield enjoys a strong, healthy atmosphere that seems to suit the chicken race admirably, so that they hatch out with impunity and run strongly at all seasons.

Nearer to town it would be impossible to let the birds run free as they do here -certain light-fingered gentry of pedestrian habits would be too numerousand in most other parts of southern England foxes are too plentiful. Then, again, the markets are handy; it is not a far cry to London, and the big Sussex watering-places are all within easy reach. And, as with all developing industries, as the business has grown among the people, so the people have grown into the business, acquiring the skill and rapidity that can only come of long usage and which helps so greatly to make the trade profitable. The people are brought up to the management and handling of chickens from childhood, for every cottager rears a few birds, and the majority of the laboring population are in some way connected with the trade as killers, stubbers, or the like. The birds, once taken in hand by the fatter, are shut up in coops, six birds to the pen, and are crammed twice daily for about three

or, perhaps, in small businesses, round martyr, of Mary's time, is still kept alive

now with full crates to the station, back again with returned empties; now piled up with Irish imports, then with consignments of ground oats, new coops, cramming machines, and the various necessaries of the trade. He collects and sends to London the dead poultry at so much a bird, paying carriage at so much a ton, and making a profit on the transaction. As much as 80 tons of dead poultry have been sent to market in a week from Heathfield, which, reckoning between four and five pounds to a bird, means some 500 to the ton, or 40,000



Such a trade naturally calls other trades to its aid. Millers become purveyors of ground oats, carpenters turn coop and pen makers, butchers deal in fat by the bushel, and large quantities of milk are supplied by the surrounding farmers.

Heathfield is beautifully situated; wide views of hill and dale, of wood and down, and the sea away in the distance. The neighborhood has interest for many. It is the site of one of the principal iron workings in the south of England. The first cannon was bored there; and placenames and quaint old fire-backs still testify to the old industry. The memory The fatting coops are ranged in alleys of Richard Woodman, iron-founder and

PATTING PENS.

the larger ones deal in ducks, geese, and turkeys, the others confining themselves entirely to chickens.

At feeding time the fatter wheels his cramming machine among the pens, takes out each bird in turn, fits the feedingtube some eight inches down its throat and, with his foot, pumps the crop full, disengages the tube, and puts the bird back in the pen. The rapidity with which this is done by a good workman don. is astonishing, the knack of handling the birds wonderful.

In Spring, chickens are taken in hand at about 13 weeks old, later in the year a bit older, and are crammed for about three weeks with a mixture of ground oats, fat, and milk. As running birds, picking by the wayside with but small allowance of ground oats, they are muscular and athletic; in the course of two or three weeks fatting they put on flesh at a great rate, and it is this rapidly manufactured flesh that gives its delicacy to the "Surrey" fowl. One of the peculiarieties of the trade is that though the birds come principally from Kent and Ireland, and are of Sussex manufacture, they are known as "Surrey chicken." When they are fatted enough for the market they are intended forwhat is called "half fat" for some of the watering-places, or "full fat" for London, then comes the process of killing, plucking, etc. This was formerly done y "chicken butchers," men who went from farm to farm for that only-but now it is generally done by the farmer himself or his men.

A shed is set apart for the purpose and so many men and girls, according to the amount to be killed, assemble. A crate of live fowls is brought in. The men take each a bird and kill it. Picking then commences. With the bird on the knees the feathers are allowed to fall in a large basket, to be afterwards packed and sent to some of the large furnishing firms of London-all except the flights and stiff plumes, which are thrown apart. In 10 minutes the bird is handed to a girl who, with a blunt knife, takes out the immature "stubs" of feathers that are missed in the picking. The "stubbing" takes another 10 minutes or so, and the bird is handed to the "dresser," who, with sundry pushes against a post, and little skillful pats, gets it into marketable shape, dusts it with flour, and puts it in the "press"-V-shaped trough with a board on the top laden with stones. There now remains but the packing-one or more dozen to a crate

-and they are ready for the carrier. The carrier is one of the powers of founding the trade. Be this as it may, the neighborhood. All day and every

gardens-some under cover, some not- | in Warbleton. Historic remains are But, as from Heathfield Station alone, on posts three feet from the ground. numerous; a stone marking the place in specially constructed poultry vans, an The small man has his 10 dozen or so of where Jack Cade was killed by Iden is average of between 30 and 40 tons of dead poultry are dispatched weekly, so dead poultry are dispatched weekly, so largest several thousand dozen. Only monceaux are within easy driving distance. Botanists may find rare flowers here, notably the little blue gentian (Gentiana verna). Many frequent the place as an invigorating health resort in Summer. But all interests are subservient to the chicken trade. The whole place is pervaded by poultry, and there are but few of the inhabitants who are not connected in some way with its staple industry .- The Strand Magazine, Lon-

Early Spring Layers.

During the Winter a large number of the hens may not lay, and this is very annoying when eggs are high in price, and especially if the flock is well cared for. There are several causes for the non-laying of certain members of the flock during the cold season. First, the hens may have molted late in the Fall. and entered the Winter in a debilitated condition. Again, the pullets in the flock may have been hatched late, and are not yet fully matured. Next, the hens may have been overfed and gotten into a fat condition. As all of the hens may have been fed alike, the poultryman will inquire why some of them are very fat, while others are laying. It may be stated in reply that some hens are more inclined to fatten than others, and the hens that begin to lay first become producers of eggs, and are then less liable to fatten. As no two hens, even of the same breed, eat the same proportions of food, or prefer the same kind always, it may readily be noticed that the members of the flock will vary in condition.

There is one point in favor of the hen that does not lay in Winter, and that is, she will begin early in Spring, and then lay regularly until well into the Summer. It will be her work when the others have ceased, and though prices may not be as high for eggs, yet they will cost less, and hens will lay more of them, proportionately, than in Winter. What the poultryman should do is to put the laying hens together, and have the non-layers in one flock. By so doing he can reduce the food of the non-layers if they are fat, or allow them food which consists of but a small proportion of grain. It is more economical to feed them when separated, as the hens will receive food best adapted for their purposes. If hens are to be sold. it will pay to pick out the fattest in the flock, and they should be sold during January, so as not to carry them over to April, and because prices will rise after the holiday season has passed,-Farm and Fireside.

About one-fourth of the Michigan

THE HOMESTEAD LOFT.

Green Bones and Profit.

The profit is always sure when every detail is correct. Cheap food must not be The Work Accomplished by this Wellestimated by the price paid for it in the market. The cheapest food for the Known Loft. The Homestead Loft is located at poultryman or farmer is that which

Leesburg, Va., and is owned by Messrs. F. H. S. Morrison and C. A. Cline. These gentlemen are enthusiastic fanciers of the Homing pigeon, and devote themselves exclusively to the breeding of it. In the Fall of 1892 they purchased a loft of birds consisting of imported Bel-

gium breeders and a strain of birds reulting from a cross of Goldman's famous Ned Damon, and other noted American flyers, to which they have since added birds bred from the following more modern celebrities: Bowerman's Petroleum, ex-long distance champion; Bowers's Darby and Joseph, long distance champions; Prinz's World's Fair champion, Rex; Prinz's Gambrenus, champion oneday 500-mile bird of America; and last, If the farmer can get two extra eggs per week from each hen in Winter, he will make a large profit. We may add but not least, a son of Paul W. Krouse's Federation, one day-champion 500-miler Yankee Doodle, and a sister to his American Champion one-day 500-miler hen, Columbia.



There is no blood in their loft other than the best that money could buy, and the following work of their birds speaks for itself.

On Aug. 27, 1893, they sent 18 youngsters to the 120-mile station. The distance was covered by the entire flock in a fraction less than 140 minutes, thereby scoring over 1,500 yards per minute, (this fly was under the management of the Washington, D. C., Federation,) and ended their training for that year.

Their .1894 Old Bird racers were flown under the management of the Leesburg, Va., Flying Club. From 120 miles they made good time

and did not meet with a single loss. From 200 miles they did not meet with a single loss.

The time of their winning bird was very fine, scoring a speed of 1,294.11 flower, from which an oil is extracted yards per minute. Their eighteenth that is more valuable for lubricating bird scored over 1,100 yards per minute. They entered 22 birds in this race, all arts, than that made from any other homing same day except two, one of which was shot within 30 miles of home on day of liberation, the other remaining out several days. The bird remaining out several days was afterwards jumped from 200 to 513 miles and won the



This race (200 miles) was flown on May 20, in a raging northeast storm. On the same day Philadelphia, with over 1.000 birds, over the same course, from the same distance, only got in 80 the day of toss, the race being won by a bird making 881.41 yards per minute.

They now have 26 pairs of mated birds for breeders. These birds are carefully handled with a view of obtaining the best possible results, and getting to gether an aggregation of reliable roadsters. Every bird in their loft will be put upon the road this Spring. They breed for the pleasure of flying and not for profit; they only sell their surplus

Cacklings.

You must always be a close observer of the habits of your laying hens to make them lay well. This observation enables you to learn what she needs far her comfort and usefulness.

A room best suited to keep your incubator in would be one which actually has no thermal changes. A room within a room brings it nearer to the point desired. This is worth your while considering.

Turkeys will come home to roost if they are fed regularly in the evening. Grain may be fed entirely, but if mixed with bread crumbs and scraps from the table, the turkeys will like it much

The egg is one of the most nutritious forms of food, because it is easily digested, containing the elements that go toward producing flesh, bone, blood, and nerve, all of which are essential to robust health. Either in a raw or cooked state it is equally valuable.

The sitting of Bantam eggs is de-As soon as the young birds are old enough to remain out of the nest and ferred until late in the season, as they do not then have time to attain the size they otherwise would. The smaller a Bantam is the larger price it will bring. Keep the chicks free from lice and there will be no more trouble raising them late in the season than in the Spring.

THE APIARY.

Beekeeping as a Business.

Read at the recent session of the Indiana State Beekeepers' Association, by M. Francis Burk In writing an article on this subject

will name three of the most important points: Person, location, and market. First, the person, to begin with, should consider the matter whether he is fitted for beekeeping or not. He should be an industrious, energetic and patient person, one who is not easily discouraged; for beekeeping has its drawbacks the same

as any other occupation. Most people seem to think that beekeeping is a lazy business, or rather not a business; but I think, after trying a year or two like the two past have been, they will be convinced that it is not. A person will find no more leisure in keeping bees as a business than he would in any other occupation.

The next point I would speak of is the location. He should consider the matter whether his vicinity would support an apiary large enough to make it a business or not. To make it a profitable business one should have at least two apiaries several miles apart. For it is a noticeable fact that a man one season in one place will get a good yield of honey, while another a few miles away will get scarcely anything. By thus having your bees divided you will get a good yield of honey almost every year.

The next is the market. In starting an apiary this is one of the chief things to consider. In locating an apiary, one should locate where the people know what good honey is, and if they do not, it is to your interest to inform them. By thus informing them you can build up a good home market for your honey. I do not say you can sell all your honey this way, but you can sell the most of it and get the best price for it.

In selling honey where you are not

known, never engage a salesman who is not posted on the subject. He should be able to tell in a clear, straightforward manner how the bees make it, and, if it is extracted, how it is extracted and put up; for people will not buy honey unless they know that it is pure.

In summing up these three pointsthe person, location, and market, I be lieve a person in the most favorable localities could make beekeeping a profitable and pleasant business.

Oil from Sunflowers.

Many plants that are easily grown in this country are made very profitable in parts of Europe by converting their seed, stalks or leaves into oil. One of the commonest plants in this country that can be used in this way is the sunfine machinery, and for use in the fine plant. The demand for the oil of sunflower is rapidly increasing, and the fact that most of this oil is imported from Europe shows how much a profitable industry has been neglected in this country.

The sunflower plant can be made a valuable crop when the mystery of extracting the oil from the seeds in understood by growers. In places where firewood is giving out the stalks of the crop make excellent fuel, and in Europe and Asia the stalks are thus used very gen erally. Moreover, after the oil is extracted from the seeds, the pressed cake makes gook fattening food for animals. In his country seeds of the sunflower are used for feeding chickens, and that is about the only use to which the plants are put. Analysis shows that the seeds contain excellent food compositions. making a well-balanced ration for poultry or animals. If the seeds could be prepared for feeding by cooking and mixing with grain, our cows would relish this diet as much as the chickens.

There are two varieties of this plant. the mammoth and the small-seeded kind, the latter being the richer in oil, and better adapted for culture in this respect. The large-seeded kind is better for feedng alone, as it produces more leaves and seeds, and in Russia and Asia the seeds are used for eating, similar to our peanuts. Sunflower seed cake is a common article of diet among the poor peasants of Asia.

In the southern provinces of Russia large fields are planted with the sun flower plants, and most of the sunflower oil comes from that region. The oil made by the farmers from the sunflower is superior to our cottonseed oil, and it has in some places superseded the use of the fine Spanish and Italian olive oils for table use. In most States of this country, es

pecially in the prairie States, where fuel becoming scarce, and the question of Winter animal food is very pressing, the sunflower will prove a most profitable crop. In the first place the art of ex tracting the oil is neither expensive nor difficult to learn, and there is always a fair market for it. The cultivation is very simple. Sun-

flowers need soil with plenty of petash in it, and if this manure is supplied the plants will thrive all right. The seeds are planted the same as corn, and cultivated in the same way. The heads must be gathered when ripe, and the leaves be stipped off, but the stalks can be left standing until needed for firewood. If the wood is not needed burn the stalks on the field, and they return to the soil the potash needed for the next crop.

The final English agricultural reports give the yield of wheat in 1894 at 30.71, barley at 34.65, and oats at 43.65 bush els per acre. This is slightly above the average for 10 years for wheat and bar ley, and considerably above for oats.

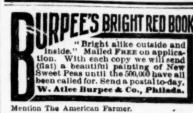
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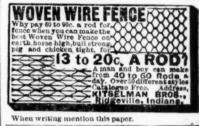


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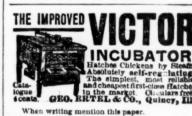


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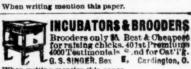
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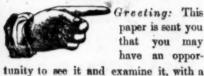
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TO ALL TO WHOM THIS PAPER SHALL COME.



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view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it: that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the

THE next thing that the Germans are trying to shut out are our dried apples-"apple rings," as they call-them. Official circulars have been sent out warning the people that these contain a dangerous quantity of zinc. This is even more absurd than the triching and Texas foreign lands, without an effort to check fever pretexts.

SICHTS AND SCENES

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WHAT WE CAN DO.

EDITOR AMERICAN FARMER: Please state in your good paper what kind of products the merican farmers can raise to offset the \$300, 000,000 worth of agricultural products which we buy abroad every year? What will pay the best ?- WM. H. MEDLER, Albion, Ill.

We do not want to raise anything to offset these; we want to raise the things themselves, and stop buying them abroad. We must put that \$300,000,000 a year in gold into the pockets of our own farmers, instead of draining it out of the country.

In the first place, \$140,000,000 of it goes out for sugar and molasses. Nothing is now more clearly demonstrated than that we can and should raise every pound of this at home. Anybody can see that if we continue raising wheat at present prices, to send out and get gold with which to buy sugar from Cuba, Germany, and France, that we are bankrupting the country. The railroads, steamships and middlemen get rich, but the farmers and the country grow poor. If that \$140,000,000 a year were distributed among the farmers of Ohio, Indiana, Illinois, Wisconsin, Michigan, Minnesota, Iowa, the Dakotas, Kansas, and Nebraska, agriculture would soon take on a very different complexion

Next, we buy about \$24,000,000 worth of fruits and nuts that we might raise at home. That is \$2,000,000 a month, which would fit very comfortably in the pockets of the farmers of the Gulf States and California.

We buy from \$1,000,000 to \$5,000,000 worth of barley abroad, and about \$1,500,000 worth of bristles.

In 1893 we imported \$5,000,000 worth of unmanufactured cotton. 1890 we bought abroad \$2,046,789 worth of unmanufactured flax, and \$8,-142.685 worth of unmanufactured hemp. Our importations of hops run from \$1,-000,000 to \$1,612,000 a year.

We imported \$14,596,224 worth of hides in 1893.

We buy \$2,000,000 worth of vege table oils, \$1,411,649 worth of cheese, \$2,500,000 worth of rice, \$30,000,000 of

We send abroad \$12,000,000 a year. or \$1,000,000 a month, for unmanufactured tobacco, every pound of which could be raised somewhere between Penobscot and Key West, and between Accomac, Va., and Santa Clara,

We pay out \$500,000 a year for foreign eggs, buying hundreds of thousands of dozens as far away as China. Our importations of vegetables run all the way from \$4,304,897 to worth a year, and ve we have the finest soil in the world and hundreds of thousands of mea out of

In 1890 we bought \$16,165,042 worth of unmanufactured wool abroad. and 1893 \$18,403,688 worth.

These are only some of the leading articles that our soil and climate are adapted to which we buy abroad immense quantities. It is seen that there is no difficulty in making up a total of \$300,000,000 a year given to foreigners who buy comparatively little of us. There are hundreds of other similar products, of which we buy from \$10,000 to \$1,000,000 worth a year, which we might put in to swell the list, but it is big enough as it is.

It is an economic folly that approaches wickedness that, with our agriculture in the shape that it is, with so large a proportion of our farmers engaged in raising products upon which there is no profit, with millions of acres not paying the cost of tillage, with millions of our people out of employment, with every section of the country compaining bitterly of a lack of money, with the Government harassed to keep up the gold reserve, that this great Mississippi River of outflowing gold should be allowed to sweep on to the impoverishing drain.

THE SUGAR BOUNTY.

Concerning the preamble of the Constitu tion of the United States which the latitudinarians in Congress stretch over every conceivable project of legislation, the Court of Appeals of the District of Columbia says: "If it may be for the 'general wolfare' of the United States to encourage the production of sugar by the grant of a bounty, it is hard to conceive why the producers of corn, wheat, cotton, wool, coal, iron, silver, etc., might not be paid a bounty also." Why not, to be sure? If a direct bounty on sugar be unconstitutional, as the court declares, so also are the indirect bounties granted to manufactures in the name of Protection. There is no more warrant in the Constitution for one species of legislative favoritism than for the other. Instead of asking for a bounty that has been repealed, the sugar producers should restore what they have unlawfully received the public Treasury .- Philadelphic

their debauchment of public opinion the present deplorable condition of the country is directly due. There is absolutely no parity between the production of sugar and that of corp, cotton, wheat, etc., for the reason that we are producing far more than we need of the latter, and selling them abroad at a loss. On the other hand, we are producing far less than we need of sugar, and are compelled to send abroad every year the enormous amount of \$140,000,000 in gold to pay for what we buy. It is a sufficient answer to the Record's claptrap to say that if we were sending out \$140,000,000 a year for wheat, cotton or corn, it would be the Government's imperative duty, under the "general welfare" clause of the Constitution, to take whatever steps might be necessary to encourage the production at home of a sufficient quantity of those staples to supply our own people.

PLAIN AS YOUR NOSE.

not to send it abroad.

The way to keep from sending it abroad is to produce things at home which are bought abroad with gold.

The way to begin is to raise in the United States the \$300,000,000 worth of farm products which we buy every It is our business to look after our own. year from foreigners.

Anybody ought to be able to see

WE may learn a useful fact in tree economics from Luxemburg. Our Consul there reports:

Twenty years ago, nearly every road in the Grand Duchy was bordered by rows of Lombardy poplars-gigantic and majestic, no doubt, but useless and even injurious. The roots of this tree radiate in every direction 30 and, sometimes, even 60 feet, causing much injury to the neighboring fields. About 20 years ago, thanks to the initiative of the Government, a movement was inaugurated favoring the replacing of the poplar trees by elm, chestnut, plane, linden, and other trees. Still later, a further improvement was introduced. This consisted of the employment of fruit trees, especially of apple trees-the preference being given to the varieties best suited for the production of cider-for bordering purposes. To-day, this roadside fruit culture is found profitable and satisfactory, both on highways and country roads.

The success which has been achieved in roadside fruit culture in many German States, particularly in Wurtemburg, Palatinate, Baden, Saxony, etc., has induced the authorities of the Grand Duchy of Luxemburg to abandon what is now regarded as an error of the past, and to adopt with enthusiasm the new system. As an example of the interest taken in this subject by village authorities, the commune of Ettelbruck may be cited. In the course of a single year (1890) this commune planted along its parochial roads more than 600 fruit trees. There are many rural communes having from 500 to 1,000 inhabitants which have planted from 1,000 to 2,000 fruit trees along their roads.

The Government causes a professor of the agricultural school at different times and places to instruct cantonal officials and overseers of highways in the science and caring for, pruning, and training fruit trees.

THE latest reports from the Argentine Republic places the wheat crop at 2,000,-000 long tons, of which three-fourths will be exported. This means a total of hibition at the County fair. Most of 53,571,428 bushels, of which about the education of farmers in live-stock 40,000,000 will be exported. This is improvement is done at these fairs; comnot nearly so much as at first expected. but it is enough-taken in connection dried-up, over-worked pasture and take with the enormously increased shipments | them to the fair in "just ordinary breedfrom Russia-to permanently depress the wheat markets of the world. The very crows would turn from them in disgust. highest exportation of wheat and flour Put them in decent shape. That does ever made from the United States was 170,000,000 bushels. During the palmy days of our wheat shipments, Argentine wheat was unknown in the markets of the world, Russian only a markets with something over 100,000,-000 bushels for export, to which Argentina adds 40,000,000 bushels, Hindustan 22,000,000, Romania 28,000,000, Australia 36,000,000, Canada 15,000,-000, and other countries in proportion. Great steamships, which will carry grain at the lowest possible rates, have brought into competition with us countries that have never before been counted in the production of exportable breed-

NEW YORKERS are confident that free wool will shift the center of the American wool market from Boston and Philadelphia to their city, and immediately after the elections of 1892 made free wood a certainly, preparations were begun for a great wool warehouse and exchange in New York. These plans are now about completed, but the Boston and Philadelphia merchants do not seem to be much disturbed over the matter. They think the worst happened to them when wool was made free.

THE Charleston News and Courier s making a fine campaign for "Hog and Hominy" in South Carolina. That is, for the farmers to raise their corn and

not pay to raise cotton at five cents or under, and buy corn at 60 cents a bushel or over. Let each farmer begin by planning to raise all the corn and meat he needs, and devote what land and labor he has over to raising cotton This means solvency, if not wealth.

SENSIBLE ADVICE. How Can We Get the Best Results

From Our County Fairs ? Read by John W. Harper before the meeting of the Shorthorn Breeders' Association at Indian-

First of all, by helping to drive all cambling and liquid damnation from the fair grounds. Let us leave such " luxuries" to our city cousins; they live more by their wits and are harder-headed than farmers. If we ourselves take a "wee nip" when we go to town or on a long, tedious fox chase of a damp, chilly day, we at least do not want it poked under the noses of our boys when we take them to the fair-ground. A wholesome, moral atmosphere is as essential as air free from miasms and disease germs. We can get best results from our fairs when we can The way to keep gold in the country take our families there without fear of moral contamination. The fair that cannot live without gamblers' license and beer money had better die.

We should see that Shorthorns have

full class, from three-year-olds down to and including calves of both sexes. They should have this class whether any other breed gets such recognition or not. The adherents of other breeds can look after their interests. It is our duty to see that our favorite breed is always before the public eye. Let us get all we can at all times in the way of recognition in the prize list. Always insist on having a separate class for Shorthorns not that we are afraid to meet other breeds, but because Shorthorns play so prominent a part in the improvement of the cattle of the country that they deserve a separate class in order to emphasize the fact that they constitute our most important breed of beef cattle. Then, get as much prize money offered as possible. If possible get three prizes in each ring, so that every exhibitor can get a piece of it. Don't let one man " hog " it all. His cattle may be only a hair's breadth better than his competitors. Invite competition from neighboring Counties. If there are better cattle in the next County it is to your interest to find it out. Don't wrop vourself up in the mantel of your own ignorance and conceit and imagine that no one has better cattle than yours. You can make no progress that way. If the other fellow can beat you, find out where he gets his good cattle, and gorget some for yourself. Swop ideas with breeders in neighboring Counties. Don't be narrow-minded and imagine your fair is your own dunghill, on which no one else has a right to stand and crow. Having invited your neighbor from an adjoining County, don't "put up a job" on him when it comes to the judging. He may be a stranger, but do not "take him in" in that way. The law of hospitality forbids it. Endeavor to educate your fair managers to the

necessity of getting reliable, competent men as judges. Insist on this. a fair is to take something into it. I don't think much of the man who " has a better calf home." If he had a good bull, cow, or calf it is his duty to the breed, to the fair, and to the cause of live-stock improvement to put it on exparatively few farmers get to the State fairs. But do not pull cattle out of a ing condition,"-which many time means that they are so skin-poor that the not mean fat-stock show condition, but it does mean to put them in such condition that a man will not think he is looking at dairy cattle instead of beef

single-judge system; explain its advan-

tages to them. Impress on them the

By cleansing our County fairs of the moral pollution of gambling and liquorsmall factor. Now Russia is in the selling; by working for full and separate classifications and adequate prize money; by inviting the world to send the best it has to be compared with ours; by getting honest and competent judges, and by exhibiting our cattle in tidy, attractive condition, we as Shorthorn breeders can get the best results from our County fairs.

Government Crop Estimates.

The estimates of the area, product, and value by States and Territories crops, together with those of hay, potatoes and tobocco, have been completed by the Statistician of the Agricultural Department

and are presented as follows: The corn crop of 1894, in rate of yield, one of the lowest on record. In the past 13 years the yield per acre of but one year, namely, 1881, was lower, the yield for that having been 18.0 against vear 1894. Severe drouth and dry winds in few of the principal corn producing States reduced the area harvested for its grain value 62,582,000 from the 76,000,000 acres planted.

Planted.

The product garnered is 1,212,770,000 bushels, having an estimated farm value of \$554.719.000 The wheat crop is above an average one

yield per acre. The entire product for the country is 460,267,416 bushels, which is below the average for the five years 1890 to 1894, inclusive. The farm value of the crop is \$225,902,025. The area, according to revised estimates, is

34,882,436 acres. In the revision of acreage the principal changes have been made in the Spring wheat States. The rate of yield is 13.2 busheis per acre. The average value per bushel 49.1 cents.

The estimates for oats are: Area, 27,023,553 acres; product, 662,086,928 bushels; value, \$214,815,920; yield per acre, 27.5 bushels.

Rye: Area, 1,944,780 acres; product, 26,727,616 bushels; value, \$13,394,476.

This is a specimen of the meretricious meat, whether they raise so much cotton or not. It is common sense that it will 12,608,200 bushels; value, \$27,040,233.

Potatoes: Area, 2,737,973 acres; product, 170,787,338 bushels; value, \$91,526,787.

Hay: Area, 48,321,272 acres; product, 54,-874,408 tons; value, \$468,578,321.

Tobacco: Area, 523,103 acres; product, 406,-678,385 pounds; value, \$27,760,739.

MAIZE IN EUROPE.

Increasing Consumption in Leading Countries.

The following tables, which refer to the year ending July 31, 1894, and which are furnished by the U.S. Department of Agriculture, present some interesting information relative to the consumption of corn in Euope, and to the sources whence the importing countries draw their supply:

IMPORTS-BUSHE	LS OF UU P	OUNDS.
United Kingdom		\$0,160,000
France		10,480,000
Germany	******* ***	32,720,000
Belgium	********	4,800,000
Holland	**********	6,560,000
Denmark		1,640,000
Switzerland		1,712,000
Austria-Hungary	**********	6,424,000
Total		134,496,000
AMPORTS INTO THE	UNITED K	INGDOM.
	1893-'94.	1892-'93.
From Roumania	28,520,000	25,721,000
United States		15,818,000
Canada	5,786.000	2,476,800
Russia	9,128,000	7,200,000
Turkey	1,931,500	1,768,900
Bulgaria	853,000	568,000
Argentine	838,000	7,698,000
Other countries	205,160	597,000
Total	71,016,660	61,241,800
IMPORTS IN	TO GERMAN	Y.

1893-103 From United States 5,938.000 5,904,000 14,560,000 11,560,000 Bulgaria... Argentine Belgium ... Holland ... Servia..... Other countries... Total. 32,680,900 IMPORTS INTO PRANCE. 1893-'94.

1.176,000 5.884,000 960,000 1,168,000 1,650,000 512,000 Total...... 11.816.000 11.050.000 It will be seen that the eight countries men-

tioned imported during the year over 134 mil-lion bushels of corn. Of this amount the United Kingdom took over 70 million and Germany 33 million bushels; France took 102 millions, and Holland and Austria-Hungary each 61 millions; Belgium took nearly millions, and Denmark and Switzerland nearly 13 million bushels each. The bulk of the corn imported into the United Kingdon comes from Roumania and the United States. but Russia, Canada and Turkey, in the order named, are drawn upon to make up about a fourth of the supply. Nearly half of that imported into Germany comes from the United States. America furnishes not more than a fifth of the French supply. In supplying Holland, America is slightly in the lead The figures given above show a marked in crease over the previous year. One of the features shown by the tables of special interest to our own farmers is that, while Argen tine has been cutting a wide swath in the international wheat market, her exports of corn to European countries have greatly. They aggregated nearly 11 million bushels in 1893, and less than 2 millions in 1894. It will occasion surprise to some Americans that the little kingdom of Roumania furnished the principal corn-importing countries of Europe more corn than United States. Roumania supplied 48 milion bushels and the United States 46 millions in the year 1894.

"WRAPPER TOBACCO."

A Very Unfavorable Decision by the

Board of General Appraisers. A very important decision has been made by the Board of General Appraisers in the matter of the protest of F. Garcia & Co. a Cuban firm, against the decision of the Collector of Customs at Burlington, Vt. as to the rate and amount of duties chargethat 207 bales in that lot of tobacco were imported from Cuba, by way of Canada, and that certain of the bales were assessed as wrapper tobacco, which the importers claim ould be assessed as filler to the tobacco was so assessed in June last, the importer withdrew it and took it back to Canada and then brought it in again under again to the General Appraisers. When the tobacco was first imported, the General Ap praisers upheld the decision of the Collector at Burlington, that the tobacco should be assessed as wrapper. It was so assessed law, and then the General Appraisers vo versed their former decision in these word as applying to the test case of two of the bales on which protest was made:

"Between the hearing in June and the present re-entry the new tariff had gone into effect, wherein paragraph 185 enacts in its first proviso that the term 'wrapper' tobacco shall be taken to mean that quality of lea known commercially as wrapper; and the second proviso determines the term 'filler taken to mean all leaf tobacco un manufactured not commercially known a

'In contemplation of this language it eadily seen that the same merchandise this description, under trade testimony, might be properly classified differently under the two nets. We are therefore led to review the results of our decision made on the June hearing, and having taken the testimony of skilled witnesses summoned from the trade other than those summoned in June, and such testimony having been given after an examination of all merchandise, and the testimony of the witnesses appearing at the Jun hearing being also considered, we find that bales Nos. 176 and 178 are filler tobacco, not containing that quality of leaf tobacco known

commercially as wrapper."

The gist of this is that the McKinley bill put a stop to a common fraud among importers, by which they packed a small quantity of filler tobacco with a large quantity of wrapper tobacco, and paid duty on the whole The McKinley bill 'filler tobacco.' stopped this by providing that if any portion of the tobacco contained in a package should be suitable for wrappers, the should pay duty as wrappers.

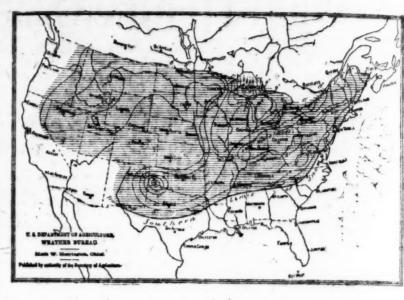
The new tariff provides "that the term

wrapper tobacco whenever used in this act be taken to mean that quality of leaf tobacco known commercially as wrapper tobacco," dutiable at \$1.50 per pound, unstemmed, and \$2.25 per pound if stemmed. The decision of the General Appraisers re opens the door for the old frau the admixture of a small portion of filler tobacco, may admit a large bale of wrapper tobacco at a duty of 35 cents, instead of ha

ing to pay \$1.50. Feeding Corn Stalks.

Corn stalks, if well saved and not verripe, are very nearly as good feed as common meadow hav, and if cut, and wilted, and mixed with sufficient grain food, will be quite sufficient for cows kept in a Winter dairy. A very good ration based on this kind of roughness may be made up of 25 pounds of these stalks with five pounds of meal of whole corn, grain, and cobs together, and three pounds each of wheat, bran, and cottonseed meal.

Depth of Snow on Ground at 8 P. M., January 28.



WASHINGTON, D. C., January 29, 1895. DEPTH OF SNOW.

On no previous chart issued during the Winter of 1894-'95 has the limit of snow, westward of the Mississippi, reached a latitude as low as that shown on issue of this date, viz., about N. 31° 30' over Texas. In the Panhandle section of that State the snowfall accompanying the storm of the 27-28th was remarkably heavy, reaching a depth of 16 inches at Amarillo. From northern Texas, Oklahoma, and Arkansas northward over Missouri, Iowa, and northern Illinois, the depth generally ranges from 6 to 10 inches, depths of from 1 to 3 feet being reported rom the northern portion of Michigan and Wisconsin.

East of the Mississippi the southern limit touches the northern portion of Mis sissippi, Alabama, Georgia, and the western portions of the Carolinas, reaching the Atlantic coast in southern New Jersey, southwestern Virginia being covered to a depth of 6 inches. The entire Winter and Spring wheat regions are now covered with snow, although the depth in the States of the Ohio Valley is slight.

Since 8 p. m. Jan. 21 there has been a general increase in the depth of snow in all sections, except on the New England coast and at a few stations in the Lake and plateau regions.

On Jan. 29, 1894, the southern limit east of the Mississippi was generally from 100 to 150 miles farther north than now, and west of the Mississippi it was from 200 to 700 miles farther north, and while there was generally much less snow then than now over the central and southwestern portions of the country, on the New England coast, and in the Upper Missouri Valley there was more snow on January 29, 1894, than is shown on the accompanying chart.

ICE IN RIVERS AND HARBORS

There has been a general increase in the thickness of ice at all reporting staions since the previous report Jan. 21. The Mississippi is again frozen at St Louis, Mo., and from Hannibal, Mo., northward the ice ranges from 12 to 18 inches thick. At most Lake stations ice ranges in thickness from 8 to 14 inches. The following special reports were telegraphed by Weather Bureau officials vening of Jan. 28:

Luke Michigan.—Milwaukee, Wis.: Ice in Milwaukee River broken up as fast as formed: rive, now full of broken ice: navigation not interrupted; no ice in harbor. Grand Haven, Mich.: Ice blocking the harbor and extends several miles out into the lake; boats trying to work out on acblocking the narror and extends several miles out into the lake; local trying to work out on account of stormy weather and lee; no departures and only one arrival since last report.

St. Marys River.—Sault Ste. Marie, Mich.: River frozen over; ice 14 inches; Hay Lake, 19 inches, Thunder Bay and Thunder Bay River.—Alpena, Mich.: 10 inches of ice in bay and river.

Lake Huron and St. Clair River.—Port Huron, Mich.: St. Clair River open from Port Huron to Lake Huron; ferry boats continue, but with difficulty; lake frozen far as the eye can reach. MARK W. HARRINGTON

To Prevent a Cellar from Freezing. The disagreeable method of keeping a

ellar free from frost by banking manure against its walls is obnoxious and to be condemned for several reasons. That it is a filthy practice should be sufficient to stop it. There are other ways that are quite unobjectionable. It will sufficiently protect the cellar to board up around the walls, leaving an air space of eight or 10 inches between the orchid. Published at 35 University Place space of eight or 10 inches between the walls and the boarding. If thought safest, this space may be filled in with sawdust or tan bark, or any other dry, porous stuff. The boarding may be permanent, for it will keep the cellar cool in the Summer. It may be neatly finished and make a permanent addition to Chicago, and devoted to "occult forces, as-Windows may be put in it opposite the other windows, so that light admitted. When there is a sudden old spell, a temporary safeguard against freezing may be secured by putting a large vessel of hot water in the cellar, or some hot stones, or a pailful of live wood coals, any one of which will raise the temperature so high as to avoid freezing. A pailful of cold water even will keep temperature above freezing, for while the water itself will freeze, it will give out heat enough in the freezing to keep other things from freezing.

NEW PUBLICATIONS.

ADVANCED AGRICULTURE. By Henry Webb, Ph.D., B. Sc., of London. Publishe by Longmans, Green & Co., London, and New York, 15 East 16th St.

The late Dr. Webb was principal of the Agricultural College, Aspatria, and Gold ledalist, London University, and the first in the class at the National competition of teachers of agricultural science. His book is well its author who had won so high a No more complete manual can be und, and when this is said, all is said. It complete in every particular, and though suited for agricultural colleges, is plainly comprehensible to the most obscure farmer. BUSHBERG CATALOG. A grape manual. Published by Bush & Son & Meissner, Bushberg, Mo. Price 50 cents.

This book was first published 25 years ago. nd immediately became a standard work on the grape. It was translated into several languages, and enjoyed a large sale. Three subsequent editions met with equal favor, and ow we have this fourth one, enlarged and improved, and with all the matter added that was necessary to bring it up to the front of the great advance in viticulture which has been made since its first publication. Besid containing a comprehensive and practical treatise on the growing of the grape, with full information as to its destructive pests, and the best methods of dealing with them, it has complete descriptive catalog of all the different varieties of the grape. vas the life-work of the eminent botanist. Dr. Engleman, and since his death it has been carried on by Prof. T. V. Munson. V. Riley, the entomologist, couributes that portion relating to the This book is thoroughly illustrated by fine photo-engravings.

This is a pamphlet of practical information in the shape of questions and answers on various subjects relating to feed and care in poultry raising; diseases, eggs, incubators, buildings, etc., with a chapter on turkeys, buildings, etc., v

00 QUESTIONS AND ANSWERS. By P. H.

A B C OF CHEESE-MAKING. A manual for farm cheese-makers. Monrad, Winelka, Ill. Price 50 cents. This gives practical directions for making Cheddar, Gonda, Skim, French Cream, Brie Neufchatel, and sour milk cheeses. Also, for

Cottage (Schmier-Kase), "Pultosy," and whey cheeses.

John De Witt Warner contributes to Har-

beautiful art. The January number has a New York. Price 30 cents, or \$3 a year. The Phrenological Journal and Science of Health. "An illustrated magazine of human nature." Published at 27 East 21st street,

sweating-shops, and marks an important ad-

vance in the discussion of the tenement-house system. In the same number Julian Ralph

has an article on the cruelties to which Ameri

can missionaries have been subjected in China:

and another important feature is Prof. W. M. Sloane's paper which accompanies the bird's-

eye view of the college buildings at Princetor

The China Decorator is a monthly journal,

New York. Price 15 cents. Planets and People is the name of a new magazine, published at 169 Jackson street,

In the February number of Frank Leslie's

Popular Monthly the momentons condition and prospects confronting Nicholas II., the Reign, are the subject of a peculiarly well This is righly illustrated with pen drawings by traits. Closely associated with the great Eastern Question, also, as well as possessing highly picturesque interest of its own, is M. le Blowitz's account of a Trip to Bosnia-Hergovina. Theo Tracy tells the fascinating Story of the Silkworm, charmingly illustrated with photographs specially taken for the purpose in the famous silk-raising districts of Friuli, in Northern Italy. The breezy log of A Yachting Cruise in Scotch Waters, with numerous sketches of the same, is contributed by Commodore John MacRae, of the Brooklyn Yacht Club. Other notable illustrated articles this brilliant number of Frank Ledie's are Wonders of the Edison Kinctoscope, by Antonia K. L. Dickson: Among the Veddahs of 'eylon, by I'. Fitz-Roy Dixon; The Mechansm of the Stage, by Arthur Hornblow, and frying Allen's delightful Winter paper, enitled The Best of Seasons. Short uncommon excellence are: Dely, by Nora K. Marble: The Mystery of the Forty-second Street Murder, by Champion Bissell, and The Story of a Nail, by Charles V. Cusuchs

The Author's Journal is the title of a new nouthly magazine devoted to writers. Its purpose, as outlined in the introductory the field of literature, bending its energies particularly to the instruction and inexperienced writers, and at the time giving news and notes of value to proessional authors. Subscription price \$1 Published at No. I William Street,

Bowers & Barr, Dakota, Ill., the great poultry experts, have gotten out a very fine descriptive catalog for 1895. It is embellished ith pictures of all the leading breeds. Price five cents.

New York.

The success of The Quarterly Illustrator, which entered upon its third volume in January, has been so decided, and a field has opened so plainly before it, that the pi proposes to offer the periodical to the ce a month hereafter. has therefore been dropped from ame, and the magazine will nown as The Monthly Hlustrator. The of each monthly number will be the same that of the last, or holiday, issue the The Quarterly Ritustrator, and the number f illustrations will be as large, furnithe reader with a total of over 3,500 pictures in the course of the year. The general st ard of excellence of the contents, literary and pictorial, will be sustained improved to the best attainable degree. arbscription price will be \$3.00 a yeumbers), which may begin at any The price of a single copy, to be bought at any newsdealer's, is 30 cents, the same a ore. The February number of The Monthly Illustrator opens with specimens in lar variety of the work of James Carroll Bec with, an artist widely popular, and likely to become more so by the manner in which the biographer, Colonel and Professor Larned, of West Point, takes the world into his confi-dence as to his friend. Mr. Beckwith is not only an artist of power but has a ver per s Weekly for January 16 an article which contains the results of personal inspection of Avenue, New York.

THE GARDEN.

Pluckings.

New York hothouse strawberries from New Jersey, now in the market, sell at \$3 a basket. The fruit is large, perfect, and beautiful, but the baskets are small: they run about 14 berries to the basket.

The best soil for asparagus is a warm, andy or gravelly one with good drainage. A soil with hard-pan bottom will answer if worked deep and underdrained with tile, but it is best to avoid such, because of the cost of preparing it for the reception of the plants. It is not advisable to place manure under the plants: but all manuring, except that used at the time of setting out the plants, should be applied to the surface and worked in with a light plow or cultivator.

Thayer's Berry Bulletin for Pebruary.

Every man, woman and child having a rod of ground should grow straw-

They may be produced on almost any

soil, and a child may grow them. There is no fruit so delicious none more productive, none more healthful. none so easily grown, none so cheaply grown and easily protected from the hot and drouth of Summer or the blizzard Winters of the northwest.

It is the rich man's berry; it is the berry, and should be as universally grown as wheat, corn, or potatoes.

The same common sense that grows a of strawberries. In fact, the process is about the same.

You cannot grow good pork from a Always get the best, whether pig or lant food. It is the most convenient ing. place for keeping raw material to be converted into agricultural and horti- day will such a machine plant? This

All may do business at this bank, but and one must work the combination well to succeed best.

Berry plants are huge feeders and hard drinkers; they require the atmosphere above and the soil beneath to

Every little fibrous root is a suctionpipe, pumping up food and moisture from below. Neither are they particular what they feed on. When well prepared for their use, they will take all refuse, all drippings and droppings-in fact, anything and everything, from kitchen slops to a dead dog-work them up into the choicest table dainties and never tell from whence they get their sunset tints

or their delicate flavors.
To grow animals or crops of any kind with most profit, they should have all

duce vigorous growth or fine fruit. careful selection, keep only the best, produce only the best, grade up

Each year should show improvement in grower, in soil, in plant, and in prodvei-M. A. THAYER, Sparta, Wis.

Sweet Potatoes.

sweet potatoes, and what heat to ow damp, and all the details in best methods for sprouting, kind of potatoes is the best

split them lengthwise, laying the flat the ground add an inch more of the Water occasionally with warm water; keep the bed warm at night, and to render them hardy. When ready to leave one row and see the difference. set, the spreads may be pulled off, or the potato may be lifted out and the best plants selected and the potato be returned to the Labod. A bushel of seed will produce from three to five thousand plants, and every thousand plants which

A great many Ohio growers prefer the Yellow Lebanon, or the Yellow senond, on account of its robust habit, its earliness, and especially over all red varieties, as its ripeness can be decided early in the season by it golden there on a poorer class of soils, and is is exhausting than any known crop.-Eleger American Farmer.

A Reform in Living.

EDITOR AMERICAN FARMER: Our civilized Christian, and boastfully enlightened Nation must go down never to unless there is a reform in the ilea of how to live. The heathen come to this country by thousands, lived well, and had never a tramp m when they returned home. our land is filled with white tramps, who live only by beggary. Yet te have millions of acres lying idle and

The Most Simple and Safe Remedy for Cough or Throat Trouble is "Brown's brell, I am sorry to say, I find of little breaking Troches," They possess real merit. value; it does not ripen up. Marshall

STRAWBERRY CULTURE

Planting by Machine-Mulching for Profit-Varieties that Do Best the

EDITOR AMERICAN FARMER: Hav ing planted the past season most of my strawberries by machine, I thought it would be of interest to the readers of your journal to let them know if it was

I can truly say I prefer the planting machine to any other method I have tried. A great many wondered if it could be possible to plant strawberries, tobacco, cabbage, tomatoes, etc., by machine. I say yes, and water them at the same time. Well, you say, how can it be done and what does a planter cost It would take up to much of your space to tell all about this machine, but I will give your readers some idea.

It takes two horses or mules-I use the latter-to pull it. They go very slowly at first, until the droppers get used to handling the plants. They can be planted 6, 12, 15, or 18 inches apart, or as much farther as you desire. It takes one team, the driver sitting on the machine, and two boys or men to sit behind putting in the plants. The machine has two wide wheels, and on top is a barrel holding about 50 gallons of water. There is a hose connected with the barrel, leading to the ground, whereby the water can be let out at the bottom of an opening that is made by a cutpoor man's berry; it is everybody's ter to insert the plants. It opens the space, and as fast as two hands sitting on the back of the machine can straighten out the roots, and holding them in posigood pig. a good cow, or a good crop of tion until a shoe comes along, open in grain, will just as surely grow a good crop the center, and presses the dirt on each plant, not disturbing the plant in the least, and the job is done. It leaves the land level and the prettiest for cultivatweak, sickly pig, and you cannot grow ing and hoeing of anything I have vet good berries from a weak, sickly plant. seen. This machine of mine costs \$80, and I am sure it more than paid for plant. The soil is a storehouse for itself this year in labor alone of plant-

Well, you say, how many acres per cultural products, as needed. It is a rather depends on how close you plant them in the row and how far your rows crops it is copied here: are apart. I plant strawberries from 15 POUNDS OF PLANT FOOD IN 2,000 POUNDS the inner doors are many, the locks to 18 inches apart in the row, according formed by nature's own cunning hand, to the variety, and the rows three and a half feet apart for fruit, keeping the beds narrow. In this manner we plant about five acres per day. When the plants are planted, say, four feet apart in the row. one man would be plenty. If the rows are five feet apart, twice as many acres can be planted per day. We have a boy who gets the plants ready at the end of the row by laving them straight in a little box, these boxes the planters hold in their laps, and the machine is kept moving all the time; and this is very important at this season of the year. I think my hands will be able to do much better next season, as they will know better how to handle the machine and the plants. Anyone can see at a glance that by having a little water at the bottom of the opening and the plants put in the good, well-prepared food they can the moist ground the instant the opening is made, and covered up, that it is almost This, to the fruit-grower, means rich impossible to have plants die. I did not soil well prepared, and always in good wait for rain, but planted as soon condition. It is imperative that all poor plants the better, but your plants planted in be discarded. Weak plants cannot pro- this way will stand quite a drouth, and I am confident plants planted by this machine are much surer to grow than by the old method.

MULCHING STRAWBERRIES.

with some-too much trouble and ex- though it can be grown cheap. pense. I saw the past season fine strawberries sold for 75 cents per crate, and hard to sell at that, because they were would have sold readily for \$2 per crate. Estimating the crop at 100 crates per acre, which is small enough for many of our new varieties (old ones will yield They may be placed so a poor year when mulching does not in-

WHAT SHALL WE PLANT?

This is rather a difficult question at this time, but I find double the money and quicker sales with the earliest and then the latest. I find Rio, Cyclone, are set should produce 40 bushels of and No Name to be the three best early varieties. The Rural New Yorker claims Rio is the best early and best quality they know of. The Ohio Experiment Station says Cyclone is quite early and continues a long time in bearing, and holds up in size quite well to the last, and it should be given a trial he like also one of the sweetest. It generally. I can fully indorse the above. No Name neither of them have tried. It is the largest of the three. I had them last year and this fully as large as Sharpless and on the average through the season, side by side, larger; no green tips. These three are not only early, but they are all good shippers, and in productiveness they are simply wonderful; I have as yet to see their equal. I cannot help but think from the past three years' experience they are the three best early berries for the commercial grower thong them. They laid up money to back No. 5 are grand berries, and no mistake can be made in planting them as second early. Warfield No. 2 is also grand, but they make so many plants worthless for lack of men to work them, kept cut off and the berries run a little they get too thick if the runners are not the prisons are full of criminals too small, but it is a grand berry in remedy for all this?—HAN- proper hands. Greenville is another grand berry and wonderfully productive,

pleased me very much the past season in fruit. Edith is the largest berry I have ever seen, and is very productive; small in plant, but such berries! Samuel Mil-Pactory.

ler, of Missouri, writes me it was the largest berry he grew this year; it measured some 71 x 42 inches in circumference. I think I could have beat it, but did not measure them. Muskingum is a very fine berry, almost as round as an apple, a little soft for shipping and a little late for the top market prices. Beder Wood is a very early berry, very productive, but it does not ripen up nicely and it never looks pretty in the crate; otherwise this is a grand berry. The Lanah, so much praised as a shipping berry, may do for some, but it is very, very small and not very productive either, and I don't think it worth planting. Crescent, if well taken care of, is yet one of the best paying old varieties, owing to it being early. Tennessee Prolific is a grand berry, firm, such a beautiful color and shape, wonderfully productive, and beautiful, healthy foliage. I will tell you more of some other varieties

Food for Thought by Southern Grain Growers.

EDITOR AMERICAN FARMER: Recently a correspondent in this State asked which takes most from land, wheat or will not grow on land when oats have uct. been removed, or not so well after

In reply we used an old table made amount of plant food removed in a ton of wheat, wheat straw, oats, and oat straw: then supposed 20 bushels of wheat and 40 bushels of oats an average crop, and would carry off three pounds more phosphoric acid and one and two-thirds more more potash than the wheat.

As the table referred to may be convenient for readers to compare their own

	OF			
	Wheat,	Wheat Straw.	Onta.	Oat Straw.
hosphoric acld (P2 O5) otash (K2 O itrogen (N1)	15.1 8.8 34.2	2.0 10.5 9.5	11.9 9.8 39.0	1.2 27.01 7.6

The reason for the above contention doubtless probably lies in the better preparation of land for wheat and the stronger feeding capacity of the oats. Farmers know that of two fields one may give a good crop of oats, whereas if sown to wheat it might fail; yet wheat, on the other, especially if helped with a little commercial manure, will give an average yield.

Now the after crops are what we wish to notice. The poor field will refuse to grow the friendly crab grass. The better field more favorably treated will be covered by crab grass, when the hot sun would otherwise scorch out much of its organic matter if lying bare.

Crab grass is a troublesome Mid- and late Summer weed. It is nimble during "dog-days." The cotton planter does not like it. Yet it makes pretty good hay if rightly managed. Hay is an ar-Yes, the same old story every year ticle of value in the South. It costs high,

Suppose as soon as oats or wheat is ripe enough to move off the ground, a bushel of cow peas is sown broadcast, EMBOR AMERICAN FARMER: Will you dirty. Had the same been clean they and either plowed with a gang plow, or cut over with a loaded disk harrow and the surface rolled smooth. A crop of pea vine and crab grass hay may be cut off and doubtless the stubble will put the market.—Mrs. S. A. REYNOLDS, 200 crates) we find a loss of \$125 per land in much better condition than if it acre, just for the sake of spending, say, had been left idle. Especially will this About the first of April put the po- \$10 per acre for applying the mulch; be- be more than true if the oat field is tates in a hot-bed. If they are large, sides, by mulching you keep the land treated to some fertilizer along with the moist during a dry spell, and it will be cow peas. Then after cutting off the pea-vine-crab-grass hav the stubble is an as almost to touch each other; then crease your crop 25 bushels of berries excellent medium in which to sow crim-Giver about two inches deep with a light, per acre, and fine berries. Growing son clover seed. The stubble may be heh compast made of fine sand, manure, strawberries without a mulch to keep first harrowed, or the seed may be sown and good soil or leaf-mold from the them clean, I claim does not pay, so if and then the harrowing done. Crimson woods. When the sprouts push above you have not already done it, there is clover will make its growth from the still time up to within a few days of time the above hay is cut until May of picking, but the sooner the better. Your the next year, when it also becomes fine berries will not only be clean, but hay if cut early, or it may be ripened on fine lay-give them air and sunshine brighter. If you doubt what I say, just for seed, thrashed out, and then become moderately good hay.

We anathematize crab grass as a rule in August and then buy poorer hay at high prices, or keep next to no stock at The system is wrong. We must awaken and think how to keep the stubble land improving while the execrated grass is turned into hay to feed more stock better than we ever did before .- F. E. EMERY, Raleigh, N. C.

Italy imports from the United States about 27,500,000 pounds of leaf tobacco

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Wasting Diseases of Children; Scott& Bowne, N. Y. All Druggists. 60c. and \$1. SUGAR IN UTAH.

Practial Success for Farmers and

The most encouraging reports come of the success of the sugar beet industry in Utah. The Territory-or State we may as well begin to call it—consumes about 15,000,000 pounds of sugar a year. The freight oh this is expensive, and vastly more so on the wheat and other products that must be sent out to pay for it. Therefore, good business ideas demanded that Utah try to raise her own sugar, and that the manufacture be carried to the last stage of refining. This has been and is being done. The very best quality of refined sugar is made at the factory at Lehi, and the yearly increase is so great as to give just expectations of its being able to soon supply all the needs of the people. The factory was started five years ago, and there is already \$700,000 invested in it, with a need of still farther extension.

During the first and second years of operation the run of beets was about next time.-M. T. THOMPSON, Rio Vista, 10,000 tons in each season. There would have been a larger run the second year, but the planting was restricted owing to a scarcity of seed. The third year, 1893, 26,800 tons were consumed. Last year the run was about 33,000 tons, the full capacity of the works. The farmers would have planted a oats? He stated that his neighbors thousand acres more ground last Spring 'contend" that crab grass and weeds | had it been possible to utilize the prod-

The manufacturing season is limited. The beets are not ripe enough before October 1, and they cannot be used while at another station, showing the after they begin to sprout, so that practically the season ends about January 10, a continuous run of 110 days. The harvesting is completed by the middle of November, and large storage houses, showed that with these crops the wheat frost-proof, have to be provided, into which the beets are rapidly and cheaply unloaded from wagons or cars. Twonitrogen than the oats. The oats in thirds of the product is delivered by turn would get nine and a half pounds railroad. The facilities are so complete that as many as 150 cars of 20 tons each have been unloaded daily several days in succession.

Farmers have been paid in accordance with contracts for the present crop, 85 per ton at the factory. The freight rate on railway deliveries, which has to be deducted, ranges from 35 cents to \$1.25 per ton—generally less then 50 cents. The effect of the tariff legislation will be to compel a reduction of at least \$1 per ton, and, if the improvements in culture and manufacture had not been very marked, the deduction would have had to be considerably more than that.

LOSS BY TARIFF LEGISLATION.

Had such legislation been enacted two years ago it would have destroyed the industry. At the product of beets runs from 8 to 30 tons per acre, the loss to the farmers can be readily calculated. This is a net loss, without any form of compensation.

The beets must reach a certain standard as to saccharine contents and purity, and these are almost wholly controlled by the cultivation. The first year 40 per cent. were below standard; the second year there were 30 per cent., but the company bough them, in some cases getting a reduction, but generally paygood policy.

The third year the farmers "caught on," and their loss was only 5 per cent. Last year there was practically no loss, Ill. all of the beets being above grade.

Improved culture is a potent factor in another direction. The beets manufactured during the first year yielded 110 pounds of sugar per ton; the second year it reached 134 pounds, the third year 153 pounds, and this year it is ton. This is not all, perhaps, in culture; it may be in some measure due to better seed and to better weather during the ripening season. Sunshine is the great sugar producer. This fall the weather has been admirable, and the entire crop has been secured past all danger.

Constant supervision is required from the planting of the seed to the final harvest, and there is, therefore, an agricultural superintendent whose duty it is to watch every farmer's crop and to see that it is properly planted, thinned. cultivated, and harvested. Neglect in any particular results in material loss. A carefully-drawn contract is rigidly enforced.

The soil best adapted to beet culture is that of the high bench lands, where there is good drainage and natural fertility. Artificial fertilizers may be used sparingly, but there is danger of overgrowth; no beets are accepted above three and one-half inches in diameter. To the present time but little land has been fertilized artificially, and it is the opinion of Mr. Cutler that the crop may be grown continuously from five to eight years without rotation.

Planting is done by machinery, as well as cultivating, several rows at a time. The seed is planted at no greater depth than an inch, and should come up very thickly-a continuous ribbon. As the young plants begin to form root, say, the size of a lead pencil, thinning must be done without delay, and this is the most with the entire business.

When the crop is ready for the harvest a plow made for the purpose is run follow, lifting them from the ground and fully removed to avoid deductions for tare. Another group of boys follows shaped knife. The beets are then

then \$1 per ton. It is largely done by boys at a saving of one-half in wages, the proportion for the field labor being about six boys to one man,

SHRINKAGE OF FARM VALUES.

Some Significant Statistics from Ohio.

Secretary of State Taylor has received returns from about three-fourths of the Counties in Ohio, giving the actual selling price of all the realty which changed hands during that period and the amounts of the mortgage indebtedness created during the year, as well as the amount paid.

The figures are from the County Audiors and Recorders, and are as near absolute accuracy as can be obtained. They reveal an unusual condition. For years the price of farm land in the State has been going down, but it may well be doubted if there has ever been as great a shrinkage in 12 months as that which these statistics show.

For 62 Counties reporting the total oss indicated in the lands sold, as compared with the preceding year, is about \$3,000,000. The aggregate amount of land transferred in these Counties is, in round figures, 1,000,000 acres. If this of it; but it must not be forgotten that proportion is maintained throughout the in growing a crop of wheat the farmer is 88 Counties, the entire amount of land sold in the State would exceed 1,300,000 acres, or more than one acre in every 20 in the State.

The average price at which sales were made varies widely, depending upon the location and character of the section. The lowest is in the strictly agricultural county of Vinton, which had a steady shrinkage in population for a number of in population in Ohio. Here \$122.72 was the average price. In a few Counmajority show a marked decrease.

The percentage of shrinkage runs

all the way from 4 to 40, the latter being shown in Hocking County, where mining is the principal industry and strikes have affected all classes of busi-

The total increase in the mortgage indebtedness of Ohio farms cannot be given exactly, but these figures afford material for a close approximation. In 15 representative Counties taken to represent every section of the State, the aggregate amount of debt cancelled was \$4,244,319, while that created was The oat crop in Newberry County, S. \$7,031,756, an increase of \$2,787,437 C., was killed Jan. 12, by freezing In other words, the new indebtedness winds. was 65 per cent. greater than the old debt cancelled.

At the same ratio the net increase in the mortgage indebtedness of the farmers of Ohio the last year was about \$8,000,-

In a word, the statistics indicate that the farms of Ohio are worth upwards of bushel, equal to not more than \$12 au \$50,000,000 less than they were a year acre. ago, while the indebtedness of their owners has grown about \$8,000,000.

Cider and Cider Vinegar.

ing in full as a matter of justice and House, Chicago, Tuesday, Feb. 5, and little moisture. continue two days. The officers of the At the Kansas Experiment Station, in

L. R. Bryant, President, Princeton, F. C. Johnson, First Vice-President, Kishwankee, Ill.

S. C. Hassler, Second Vice-President. Louisiana, Mo. C. C. Bell, Secretary and Treasurer, Boonville, Mo.

The forenoon of the first day will be running from 175 to 180 pounds per devoted to the arrangement of exhibits and the transaction of routine business. Then there will be the reading and discussion of important papers by prominent fruit growers and cider and cider vinegar manufacturers, and the meeting will conclude with the election of officers, reports of committees, etc. A large meeting is expected.

Pixing Wages of Cotton Hands.

Last month the cotton planters of the Yazoo Delta held a convention at Nitayuma, Miss. Resolutions were passed fixing the pay of best male labor at 50 cents per day, and the best class of female labor at 40 cents per day. Not will be paid the best labor, and crops should be laid by at a maximum expenditure of \$3.50 per acre.

Clubs will at once be formed through reduction of wages.

Mexican Cattle Men Smile.

From a report by Col. Albert Deans. Southwestern Agent of the Bureau of G. S. Animal Industry, it is shown that from Sept. 28 to Dec. 31 last 45,890 cattle were admitted from Mexico to the United States, and it is estimated that 6.000 more have come in since Jan. 1.

Burpee's Farm Annual for 1895.

Always fresh and original, Burpee's Farm Annual for 1895 is even better then ever be fore. The cover is most artistic and beautiexacting and laborious work connected ful; lithographed in 10 colors, it shows on the front an attractive bouquet of the new Sweet Peas, now so fashionable is a bird's eye view of Fordhook Farm, where many of Burpee's seeds are grown and where to a depth of 15 inches alongside each there were conducted the past season more row, loosening the roots, so that boys follow, lifting them from the ground and complete book on seeds, as it contains 174 throwing them into piles at convenient distances. Adhering dirt must be carenumber, are all true to nature, being mostly engraved from photographs, while and cuts off the tops and the sun-burned noteworthy for their accuracy. Messrs. W. crowns with a single stroke of a sickle. Attee Burpes & Co. Make the nominal charge shaped knife. The bests are then gathered into sacks, which are loaded on pleased to mail a copy free to any of our than actual cost of publication, but will be wagons without sewing, with the open mouths to the center of the load. By following this system the work of harvesting is simplified, and the total cost, including hauling, is but a trifle more based to mail a copy free to any of our ture, United States History. A course of readers who intend to purchase seeds this lectures on Home Floriculture, Butter Making, Domestic Science and Art is offered to farmers' wives and daughters.

Write for catalogue of further information. Address Chas. P. Fox., Professor of Agriculture, Moscow, Idaho.

and patentability of inventions and validity of patents. Rejected applications prose-

GEORGE E. LEMON. Lemon Building, Washington, D. C. Opinions rendered as to the novelty ATTORNEY AT LAW AND SOLICITOR OF AMERICAN AND FOREIGN PATENTS.

Cost of Wheat

wheat with the general result that it costs between \$11 and \$12 an acre to grow it and market it. If the yield is 20 bushels an acre, which is far above the general average, there is no profit in it, the vield just about meeting the cost spending his capital in the form of the fertility of the land, and which must be maintained, or, like a spendthrift, he will soon be reduced to utter poverty.

A bushel of wheat takes from the soil one and one-half pounds of nitrogen, worth 25 cents; one pound of potash, worth six cents, and three-fourths of a pound of phosphoric acid, worth four cents; in all 35 cents. This is equal to years. The average there was by \$10. a charge of \$7.00 per acre for the actual 25 per acre. In contrast with this is expenditure of the fertility of the soil, Cuyahoga County, in which is the city and which must be replaced at this cost of Cleveland, rapidly becoming the first to keep the land productive, before any other expense can be met. This is imperative. These figures give the estities an increase is reported, but the great | mates of the Department of the average cost of this crop everywhere:

																				Ac	
Rent of la	nd		٠.												 ě		 		٠	82	8
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owing		* *								 											: 3
Harvestin	g.											 					 			1	11
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storing ar	d	m	a	rl	26	et	i	n	2											1	1:

This is about 60 cents a bushel, if the vield is 20 bushels.

The Field.

Clover culture is indispensable to good

farming. It is not only profitable in itself, but most so in the production of seed which may bring \$10 a bushel. This is equivalent to \$50 an acre, and yet farmers are complaining that it does not pay to grow wheat at 60 cents a Some tests have been made this season

in the semi-arid portion of Texas of a new forage plant known as Russian millet, which it is thought will prove The Cider and Cider Vinegar Makers' valuable as a dry-land forage crop. It Association of the Northwest will begin appears to be a non-saccharine sorghum, its annual meeting at the Sherman and produces a large crop with very

tests with oats it was found that the hot-water treatment for smut resulted in an averege gain for the past three years of three bushels per acre in favor of treating the seed. In tests in the amount of seed per acre the yield for light seeding was 32 bushels, for medium 331; and for heavy 351. The heavy seeding in these trials thus gave the best results.

The Berkshires.

The American Berkshire Association at its nnual meeting held in Springfield, Ill., Jan. re-elected N. H. Gentry, Sedalia, Mo. President; Charles F. Mills, Springfield, Ill. Secretary, and A. Lovejoy, Roscoe, Ill., Treasurer. Messrs, N. H. Gentry, Sedalia, Mo.; Wills A. Seward, Budd's Lake, N. J. W. E. Spicer, Harvard, Neb.; J. O. Terrell, Terrell, Tex. and M. K. Prine Oskaloosa wa, were elected as members of the Board of Directors. The action of the meeting on most matter

was unanimous, but was not reached until after a good deal of friction. Sixty-three o the 82 shares of stock represented at the meeting were owned or virtually owned by Charles F. Mills, and to satisfy the demand of the breeders, the displacement of himself his son, and Mr. S. H. Gehlman from the Board of Directors, and the election of those above-named, was insisted upon. It was also more than \$7 per month, with rations, decided that moneys received by the Secretary should be turned over to the Treasurer and paid out only on the order of the Secre tary approved by the President.

Measures were taken for the reduction of the shares of stock in the Association from out the State, having for their motto the \$100 to \$25 each, and that the shares now held by Mr. Mills shall be offered for sale.

While all was not done that was wished yet the Association and its patrons may be congratulated on the work accomplished, and may believe that the Directors in charge of its affairs will look well to its interests .- J

Avrshire Meeting.

The 20th annual meeting of The Ayrshire Breeders' Association was held at the Narragansett Hotel, in Providence, R. I., on the 9th of January, 1895.

The officers elected for the year ensuing Obadiah Brown, Providence, Presi dent: H. R. C. Watson, Brandon, Vt., L. S.

Drew, Burlington, Vt., H. Betts, Wellington. O., John Stewart, Elburn, Ill., Vice-Presidents; C. M. Winslow, Brandon, Vt., Sccretary; Henry E. Smith, Enfield, R. I., Treas-S. M. Welis, Wethersfield, Conn., J. O. Magie, Elizabeth, N. J., Executive Com mittee; C. M. Winslow, Brandon, Vt., J. D. W. French, N. Andover, Mass., Editing Com-

University of Idaho.

The Winter course in agriculture offered by the University of Idaho, began Jan. 14, 1895, continues six weeks. No charge for tuition. Instruction in the following ects is given: Agriculture, Horticulture, Dairying, Stock Breeding, Stock Feeding, Farm Engineering, Farm Mechanics, Farm Botany, Farm Entomology, Farm Physics, Farm Chemistry, Farm Accounts, Farm Physiology, Arithmetic, Grammar, Litera-ture, United States History. A course of

Average Yields in Ireland.

The U. S. Department of Agriculture has been investigating the cost of raising to show what are the results of careful culti-It will be interesting to compare the official

ion:					 	 	 and curti	
Wheat,	bushels						30.24	
lats	**						54.24	
Barley	44						38.26	
110	- 66						26.04	
Potatoe:							136.64	
Mangel	Wertzels	8,	tor	19			18.25	
lax hb	er, poun	ds					511.00	
fay, to	ns						2.24	

A YOUNG MONEY MAKER.

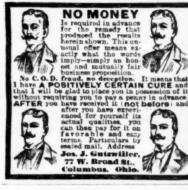




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Miles stretch between us, dear, and yet I know fond words may travel where I may not go, So now I send This message, and I would that I were near To make its meaning and my feelings clear, My more than friend!

Within my mind, my heart, you have so grown That I have come to think you all my own.
Though never yet
Ave I confessed, and now when comes this day,
on which all lovers fond their love tale say,
Could I forget?

Not I. Thoughts crowd and jostle in my mind; I scarce can tell which ones to leave behind. But this I know.— That I must say I love as love but few, And dearer than all other maids are you,— These words shall go.

When you have read them, think of me awhile, How we are parted now by many a mile; Then write a line, To tell me, lone, and anxious, and afar, Fond words in answer, saying that you as My Velentine.

ABOUT WOMEN.

JENNIE MORAN, A GIRL LIVably true. It takes an American girl to ance, why wear a Gainsborough? be brilliant.

SUSAN FENIMORE COOPER, the second daughter of James Fenimore Cooper, died on December 31st, at the age of 82. During her farther's life she acted as his secretary and amanuensis, helping him considerably in his literary work; and later she contributed many articles to the periodicals and wrote several successful books.

MISS ALICE STONE BLACK well has taken a deep interest in the cause of the persecuted Armenians, and she says that in Massachusetts alone there are 2,000 which have come mostly from Asia, and not from Europe and Africa, as is commonly supposed. It does seem as if, with this number in our midst, we might as a people take some action in assisting these suffering and oppressed Christians.

CHRISTINA ROSSETTI, England's sweet-voiced poetess, died during the past month. She was a sister of the poet and artist, Dante Gabriel Rossetti, and has been widely known for many years, wherever our current magazines have found their way. Though other writers are coming into fame, her place among the real poets will go unfilled, and her beautiful poems will make her always seem to live, as does Elizabeth Barrett Browning.

Have a Hanging Basket.

There is something cheerfully pretty about a rustic hanging basket with its growing plants, and it is easy to make one out of material collected on pleasant days, if one walks where she can find bark and branches. Make the basket any desired shape, but not too shallow. The main difficulty is in keeping the plants well watered, and the best plan is to take a small tin can, make several very small holes in the bottom and sink the can in the hanging basket, where it will be concealed by the plants and vines. Keep this filled with water and allow it to slowly escape through the openings. The daily watering, or even once in every two or three days; will then be sufficient, and instead of a dry, baked soil, soon after the water is supplied, it may be kept constantly moist.

Household Hints.

Water on the hair is apt to make it look rusty, to turn it gray, and to give it a bad odor. If you are threatened with dryness of the scalp, and if you are obliged to wet your hair in order to make it stay in place, a little vaseline rubbed in the roots will prove bene

If your furniture is dull and needs its luster restored, try a polish made from two parts of raw linseed oil and one of turnentine. Mix theroughly by shaking, apply a thin coat with a flannel cloth and rub theroughly and briskly with a dry cloth. This polish is said to be used by furniture dealers.

Somebody has remarked that the motto of Chauncey Depew, or, rather, his "key to success," wouldn't be a bad one to put up in every room in the house, and on the wall of every business office. It is "Stick, Dig, Save," and as it has brought him wealth and honor, it can do the same for others. Certainly it is a condensate for a house control of the same for the minly, it is a good motto for a housekeeper e means are small and worries many.

In the kitchen of a careful woman not a scrap of bread, a bit of meat, spoonful o potato, a drop of milk, ever goes to waste. She knows to the yolk of an egg just how much is needed to make a cake for four people. or an omelet for six, and she does not ple, or an omelet for six, and she does not throw in an extra one for good measure; for that would be wasteful, and, besides, make the omelet or cake a failure. The extra egg will cost two cents only, but it will make sufficient dressing for a salad, an addition to a school lunch, an appetizer for a sick member of the family, clear the coffee for two or three days, finish the recipe for a pan of muffins, a dish of hot cakes, a dip for chops, and though it does cost but two cents, if the use of it extravagantly empties the egg basket it may leave her in the lurch just at a time when she needs just one egg, and has to prepare a much more expensive dish just be-cause one egg is not obtainable in time. So it is with waste everywhere in the culinary

Never salt before cooking any meat that nices which constitute the nutriment of the Never stick a fork in a piece of meat that you are roasting, broiling or frying, as that breaks the outside searing, and lets the juice escape. The whole method of cooking beef, unless for the express purpose of extracting the essence, is to retain all the juices.

Customer of the factory, is well pleased with the results. The manufacturers say that wooden bread constitutes also an excellent food for man.

FASHION'S FANCIES.

All manner of fans are worn, from the ermine and mink of our grandmothers to the narrow bands of marten and sable used to edge cloth gowns and wraps. Narrow mink is even applied to pale-colored party gowns with charming effect.

Many persons are now wearing large bunches of artificial violets attached to their muffs or coats, but it is not good taste to do so. They are only pretty on one's hat, and especially so when caught beneath the brim next to the hair.

Skirts now have seven gores, are five yards in width and are lined all the way up the back, and a foot and a half in the front with hair-cloth. They are exceedingly stylish, of course, and in rigidity would do credit to "Old Iron-

Hats are very large, with peaked crowns, and on the left side are piled high with ostrich plumes, the more the ing near Sedalia, Mo., is one of the latest wonders in the electrical line. They say that she is able to illuminate a Gainsborough, but if a close hat or room with her presence, which is prob- toque is more becoming to one's counten-

Every woman should possess a number of velvet or even velveteen collars of all hues. They brighten a much worn gown wonderfully. They are no trouble to make, either. Cut a bias piece long enough to reach about the throat and lap an inch, and wide enough to be three inches high after it is enough to be three inches high after it is habit of reading so much fiction and light reading we will not care for any other kind, or get interested in anything that requires little frill to stand out. Line with canvas or jute, and fasten with small hooks and eyes.

Waists.

With two or three daintily-made silk waists one may always be prettily dressed, for they may be worn with the plain wool skirt to one's street gown, and are much more becoming for the house than a whole cloth suit. There are endless ways to plan them and trim them. Some have dainty yokes with rows of shirring running across, or up and down,



the rows. A light gray-blue had a plain square voke with a narrow, oldfashioned quilling of the silk across the a becoming fashion from the shoulder and armhole seam. The trimming consists of three strips of fancy ribbon.

A Comfortable Coat.

For a school coat, the half-fitting kind shown in the cut is always satisfactory. It is rough, wooly goods, trimmed with wide, dark-brown braid. The half-fitting waist is preferred to the tight waist forms, especially for young girls, or anyone who



is slender. Sleeves continue to outdo the rest of one's costume. The balloon tops and tight from elbow to wrist is the form now in vogue.

Wooden Bread.

A German periodical devoted to wood industries announces that food products consisting partly of wood are now manufactured. At Berlin a factory has been built which is turning out about 200 quintals of wooden bread a day. Sawdust is subjected to chemical treatment, after which it is mixed with one-third farina and prepared like ordinary bread. The product at present serves only as food for horses, but the Berlin Tramway Company, which is the most important customer of the factory, is well pleased

WOMAN'S WISDOML

Her Way of Doing.

EDITOR FARMHOUSE: I find my plan for washing heavy quilts and comfortables a good one. Put them on a clean floor and with a broom scrub them. I can see just where the most soiled places are and soap them; I fold and turn them, and when I think they are clean take clear water and rinse, using the

broom vigorously.

I then fold and press all the water out that I can get out with my hands, and lay it on the grass, in the sunshine, right side up.

This method preserves the cotton better and breaks less stitches than any other way I

My husband recently killed what had all symptoms of being a felon by keeping the diseased finger well soaked with turpentine. He put the turpentine in a wide mouthed bottle and held his finger in it. After several days the finger looked so red he poulticed it with bread and milk. Keep using the turpentine until every sympton of felon is gone.

I find that baked fruits are much nicer for

anning than boiled ones.

I bake my tomatoes and they are fine-Oregonian.

MORE BOOK TALK.

A Kansas Girl Shows Her Good Taste in Literature.

EDITOR FARMHOUSE: I was reading at interesting article in your paper recently on books and authors, and I thought I should like to say a few words on the subject. I think the reading of books has an influence over us, either for good or bad, perhaps more influence than we realize, and, like our associates should be well be well by a perhaps and content of the same real content o ciates, should be well chosen and considered to a large one filled up with any and every book that may come to hand.

Some parents would not allow their son to associate with a certain boy because he is too grouph. He grades a large carde, rephase carde,

rough. He smokes, plays cards, perhaps, and does many other things they would not like their son to do; and I do not blame them. Yet, they will say nothing to him about reading the doings of Jesse James, exciting pirate stories, or the Saturday Blade. I do not approve of novel reading. I think it weakens the memory. A great many of us reading a novel will read it through for the

deeper thought.

In fact, I think novel reading is injurious for the young especially. Children should be encouraged in reading good books, such as the Bible, histories of our Nation, and of great men. Any child reading the life of Abraham Lin-coln or James Garfield will have a higher ambition, a desire to be something more than common. Parents should be careful about the books their children read. The future strength of our Nation depends upon the children of to-day. It is surprising how little many professed Christians know about the Bible. It contains 1,179 chapters, and any ordinary person could read it through in a year. Yet, how many young people have never read the Bible through from beginning to end? Now, at the beginning of a new year, it would be a good plan for us to begin at Genesis and read the Bible through. The time we spend in reading it would not be lost. Among the books I have read my favorites are: "Ben Hur," by Lew Wallace; Pilgrim's Progress," by John Bunyan; "My Story of the War," by Mary Livermore; "Prince of the House of David," and Tennyson's and Longfellow's Poems. I have read "Ships that Pass in the Night " but did not under that rass in the Night, but that into thaterstand it. I think this is an interesting subject to write about, and would like to hear from others.—LUNETTE LEWIS.

A ROUGH EXPERIENCE.

But two Young People Would not Give

up the Fight. DEAR FARMHOUSE: 'Tis some time since I von a letter, ar with very narrow lace sewed between you how much I appreciate your cheery rustle in my far Western home. How nice to be able to talk to so many kind and sensible sisters, when one cannot see one's nearest neighbor, very often, at least, on account of foot of the yoke. The waist in the cut is of golden-brown taffeta, is gathered in have had much experience of hard times, though, as I stated before, I am but 24. My husband and I were 16 and 23, respectively, when we started on life's journey. One year after, we saw the farm we now own, and at once concluded that to be independent and comfortable we must become farmers, and as this place had all the good points needed, different kinds of soil and plenty of water, we immediately filed a "homestead" on it Well, we took up our new quarters and planted a small garden and five acres of oats, all the seed we were able to get; but we had no money to buy wire, and the wild cattle walked right through our humble pole fence, and by the hundred at that, and so Mr. W. took his blankets, Western style, and slept in the field to keep them out; but one day we hand of 40 head of cattle, belonging to a rich neighbor, broke in and destroyed our little crop; and we had chained our one cow to pre vent her bothering that neighbor; so we had to move to the mines that Winter. Mr. W. too a big wood contract and was hauling with our one team when one of our beasts got down in the snow and there died; there had one left; but, not discouraged, Mr. W. went to gold mining at \$3.50 a day; but as provisions and rent were high, we had a struggle to get barb wire and seed for 10 acres of oats and some garden seed.

Well, we moved back to the place in the Spring and put up a good fence and put in our crop, my husband getting the use of a mare for "breaking" her. While the garden mare for "breaking" her. While the garden and grain were flourishing, doing even better than we had hoped, we procured a mate for our horse "on time"; we have the beast to-day; then Mr. W. began breaking ground and looking forward to a bountiful harvest, but soon news came that the grasshoppers were swarming on the prairie, and, sure enough, just when our vegetables were fit for table use they came. Only those who have been in grasshopper regions would believe me when I say one would shut one's mouth for fear of breathing them, and would mash at one step all that the foot could cover.

We cut the grain for hay, but before we could get it stacked, the cocks were nothing but their bulk in these insatiable insects. So we put out our team and one cow to winter, and moved to the mines, and again returned and put in our crop; again it was destroyed; again we braced up and, encouraged by the favorable predictions of old farmers, suffered a fourth year. Driven to desperation we planted a bigger crop of grain and bigg garden the fifth Summer, and when they were here by countless millions we set big fires and thus saved our garden. Garden were scarce, of course, and we easily disposed of our vegetables, and saved enough to buy cows and two pigs, and the next season

we did not move away.

We planted 30 acres of grain and a big garden. Then a new alarm was raised, and the country, free of one pest, was covered by crickets as large as mice and just as de-

structive. Now we again saw the ground bare as before we toiled at tilling it. This was repeated twice the second year. Not a crop
was raised in the whole country, and the
poor farmers had to give up the fight and
seek pastures new. We found ourselves
among the very few "who had fought the

good fight," and was still hoping for a time when we could get the crops we put in. But, dear friends, our fund of hope and resistance were very, very low then relief came, and last year we raised out itset crop, and now we have cows and six not work animals, and are getting one and a half dozen eggs a day, selling them at 40 certs a dozen; butter, at 60 cents a roll. It is proven that this country is at last free from pests, and the farmers try is at last free from pests, and the farmers are happy as a result. I write this to encour age all young people to believe the old mottos "Try, try again," and "a rolling stone gathers no moss." But, will some one please gathers no moss." But, will some one presented me how to make good cucumber pickles, so they will be green and brittle made like our grandmother's, and some day I will tell you how to make the finest, whitest bread form which of them. from any kind of flour.—Mrs. SAM WILLSON, Humphrie, via Hailey, Idaho.

SICK-ROOM COOKERY.

Invaluable Recipes From a Hospital Nurse.

EDITOR FARMHOUSE: In my capacity as nurse, going about from home to home, I have always found the mothers and wives not only willing but anxious to learn anything per-taining to the care of their sick. But it is truly surprising that a subject of such importance and in which the nurse is so directly interested-that of sick-room cookery-should be so neglected. A great number of recipes for invalids can be found in books and papers;

many are reliable, but many are not.

You may rely on every one of the following, for I have tried them all many times, always with success. They were taught m in my cooking lessons while in training as a as this I cannot mention one-tenth of what I would like, but will begin, as the patients usually do, with the gruels FLOUR GRUEL.

(Mrs. Lincoln.) Mix two teaspoonfuls of flour and one salt-poonful salt, make into a thin paste with a ittle cold water, then stir it into one cup boiling water. Cook 15 minutes. Dilute with milk; strain. A half-inch stick of cinnamon may be boiled with it if desired; the spice will still farther reduce the laxative condition. Gruels should be sweetened slightly, if at all. Cornstarch, rice-flour, and arrow-Cornstarch, rice-flour and arrow

MILK GRUEL.

root gruels are made in a similar manner.

Mix one tablespoonful flour into a smooth paste with a little cold milk. Pour this into one pint boiling milk. Cook 20 minutes and strain. Season to taste with salt. A cup of chopped raisins may be boiled in the milk for

> INDIAN MEAL GRUEL. (Mrs. Lincoln.)

Mix one tablespoonful flonr, two tablespoonfuls cornmeal and one teaspoonful salt; make into a thin paste with cold water; stir it into one quart boiling water; boil 30 minutes, stirring often; thin with milk and cream Milk may substitute for water by using a

double boiler.

Roll one cracker fine; add one cup water, one cup milk, and one-half teaspoonful salt; let it come to a boil. Thin with milk if

> OATMEAL GRUEL. (Mrs. Lincoln.)

Two tablespoonfuls oatmeal, one saltspoonful salt, one quart boiling water. Boil one hour. Strain and serve with milk or cream. TOAST. Bread is toasted, dried and browned before

the fire to make it digestible and palatable by extracting the moisture. If the slices be cut thick, the inside is not cooked and it is apt to roll into a soft pulp, into which the gastric and other digestive fluids cannot penetrate. It is better to have it dry and then moistened with milk or water, than to have it doughy. WATER TOAST.

Toast the slices of bread until very dry and a light-brown, dip in salted, boiling water quickly. Spread with butter and serve.

MILK TOAST. Scald one cup of milk; melt ope-half tablespoonful butter in a saucepan. When hot and bubbling add one-half tablespoonful cornstarch. Pour in the hot milk, slowly heating continually until smooth. Boil up once; salt to taste; toast the bread, dip, and let it remain five minutes. Serve. Cream toast is made the same way, using

cream in place of milk. Probably the most digestible form in which to cook potatoes is to bake them. Break the skins and allow the steam to escape before

Many things affect the digestibility of the fleshy foods, but we can only speak of the cooking in this article. An easy boiling makes meat tender and digestible. Hard boiling toughens meat. Stewing is long-continued boiling. Roasting is very desirable, if done in a proper way, held directly over the fire. What is commonly called roasting is really baking. Broiling is roasting in thin slices, a nost excellent way. Baking is very objection able. Frying is worse, as the coagulated fat forms a crust which is indigestible. Soups, borths and beef teas should not be strained, as most of the nourishment is removed by that

One pound of lean meat cut in small pieces. Let stand with one cup cold water in glass jar one-half hour. Then place jar in kettle of cold water. Heat slowly almost to boiling point. Keep this temperature for two hours Strain, press thoroughly, and season with salt. BEEF EXTRACT.

Same as the tea, less the water. RAW BEEF SANDWICHES. (Mrs. Lincoln.)

Scrape raw beef fine, season with salt and pepper, and spread on thin slices of bread. Put together for sandwich.—Mrs. M. M.

EXCHANGE.

Miss M. Alice Donahoe, Winchell's, N. Y. writes: "I would like to exchange Tolstoi's
"My Husband" and "Ivan Illuck" com-bined. 2. "The Career of a Nihilist, by Serbined. 2. "The Career of a Nihilist, by Sergius Stepniak. 3. "The Mystery of Colde Fell," by Charlotte M. Braeme 4. "His Second Wife," by Miss Braddon. 5. "Gulliver's Travels." 6. "Esop's Fables." 7. "Pretty Miss Smith," by Warden. 8. "A Russian Gypsy," by Alexander Dumas. 9. "King Solomon's Mines." 10. "She." 11. "Cleopatra," by H. Rider Haggard. 12. "Peg Woffington," by Charles Reed. These books are all bound in paper. I would like to exchange them for those bound the same. like to exchange them for those bound the same or would give two or three of these for one in cloth. I would like to exchange for the fol cloth. I would like to exchange for the fol-lowing books, or if they haven't them please send in their list: "Little Lord Fontleroy," "The Woman in White," "Lady Audley's Secret," "Gentlemen," "A Country Gentle-man," "Fair Women," "Ships that Pass in the Night," "Robert Elsmere," and "The Heaventy Trins" or any by Edga Lyell Heavenly Twins," or any by Edna Lyall, Mary J. Holmes, Caroline Lee Hentz, E. P. Roe, Rosa N. Carey, and William Black. Postage to be paid by owner of the book.
will pay postage on those I send.

FREE TO INVALID LADIES.

CORN FLOUR.

Mrs. Rorer Gives a Number of Recipes for its Use.

Corn flour can be used in the place of wheat flour, or it may be used half and

CORN MUFFINS.

Separate two eggs, beat the yolks, and add to them one cup of milk; add a tablespoonful of melted butter; stir in one cup of corn flour, one cup of cold boiled rice, and a half cup of wheat flour; add a half teaspoonful of salt, a teaspoonful of baking powder; then stir in the well-beaten whites of the eggs; bake in a quick oven in gem pans, 20 minutes. CORN FLOUR BREAD.

Put into a farina boiler one pint of

milk; when it is scalding hot, pour it over one pint of corn flour, adding boiling water until you have it the consistency of mush; return this to the farina boiler and allow it to cook for 20 minutes, stirring and adding boiling water as it thickens. In all, you should use one pint of milk and one of water.
Add a teaspoonful of salt, and when lukewarm add one yeast cake dissolved in two teaspoonfuls of lukewarm water. Stand it aside until very light. Now add sufficient wheat flour to make this into a dough that you can knead upon a board. When you have it well kneaded put it back into the bowl and stand aside until it has doubled its bulk; then mold into loaves; put each in a greased pan, and, when light again, bake as you would ordinary bread. This bread will keep moist for almost a week, and should be fine-grained and white.

CORN-FLOUR PUDDING.

Moisten two tablespoonfuls of corn flour with a little cold water; pour over one pint of boiling water; cook over the fire for about five minutes. Take from the fire; add a half cup of sugar and the well-beaten whites of three eggs; turn this into a mold and stand in the cold. Beat the yolks of the three eggs with four teaspoonfuls of sugar; add to them one pint of scalding milk, cook for just a minute, add a teaspoonful of vanilla, and stand away also to cool. Serve the pudding turned out on a dish with the custard around it. - Exchange.

Home Table.

APPLE TARTS.

Make a plain pie-crust with butter and sour milk, molding quite stiff. Roll thin; cut in square pieces about four inches; put a dessertspoonful of sifted, sweetened and spiced apple in each. Fold over, wet the edges with milk, and press together. Dampen the crust with sweetened milk. Bake on buttered tin in a quick oven. Eat cold with cream.

INDIAN PUDDING.

One quart of milk put on in double poiler, or one pan inside another with water in to prevent burning; four tablespoons of Indian meal wet with a pint of milk; let sould, and when cool, add two well-beaten eggs, four tablespoons of molasses, the same of sugar, a teaspoon of cinnamon. Bake two hours or until firm. Very good.

GRAHAM PUDDING.

One and one-half cups of graham flour, one-half cup of buttermilk, onehalf cup of me or two of cream, one-half teaspoon of soda, and one-quarter teaspoon of cinnamon, some kind of dried fruit or raisins; steam nearly two hours. To be eaten with sugar and cream.

APPLE CUSTARD PIE.

Beat the yolk of an egg and one-half cup of sugar until very light, then stir in one cup of apple sauce; flavor with lemon extract. Bake with one crust in a quick oven. Make a meringue of the whites of the eggs, and brown lightly. CREAM PIE.

Beat together one egg, one-half a cup of sugar, three teaspoonfuls of cornstarch and one-half a cup of cream. Stir all together. Warm two and one-half cups of milk; mix with the other ingredients,

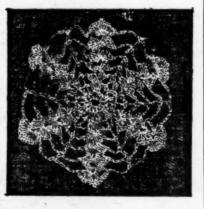
and bake like custard pie.



SPIDER-WEB TIDY.

Chain 6, and join 12 de in ring, fasten to

first one with sc, ch 3, 2 dc between first and second st, ch 1, 2 dc in same st, ch 1, 1 dc between mext two, ch 1, shell between next two and so on around until you have six shell, fasten with sc, next time around put two



more stitches in shell, and as you enlarge the shell, lengthen the chain between the shell, keep on with this process until there is 14 stitches in shell, and 12 st in the chain. This completes one web; 37 of them make a small On the first web sew six around the outside, then 12 around the six, and 18 around the 12. Take fine thread and needle for sewing together; sew with buttonhole stitch. With a little patience this may be sewed so as not to show, and is very pretty when com-pleted. It may be worked in crochet cotton No 40, or cotton thread No. 30, any color de-sired.—ELLEN A. CLAUDE, Sherburn, Minn.

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trimmed with revers or viewer, and it could not be been a flashiomable shades. This suit would conjunct or make about \$12.00. We save you the time a bother of making it and give you a perfect fit, besid the latest imported style. This is an important poir which cannot be gained by patronizing a country dress which cannot be gained by patronizing a country dress.

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OUR GOOD QUALITY

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"Oh, mother ain't dead, nor won't be

had always bated one another like

old house to Abner. She never did like

of idle readin' from her. Seth said he

couldn't have her come to his house,

and happening to fall into conversation

with the lady who sat next to her on

the boat, she related this incident to her,

"Do you know anyone in Clifton?"

any other part of this State. We, my

children and I, are simply passing

through it on our way home from a visit

"I am glad of that, for I want to tell

Getting excited with her recital, how-

finished her story the stranger said,

Mills until a few years ago. Perhaps

"Oh, ves: I have. Ah, here is the

Early the next morning this same

stranger "might have been seen" (as G.

Mrs. Izannah Ballard in the Old Ladies'

"You once lived in Barnum Mills, or

Clifton, as they now call it, did you not?"

the visitor asked Mrs. Ballard after the

"Yes; I was married in Clifton, and

my husband bought a farm there. He

children live in Clifton still. Have you

" No: but I know some one who did

HER.

did,-he set great store by his books."

"Are you comfortable here?"

"I heard he was wild."

come from there?" was the answer.

first greetings were exchanged.

saying the stranger took her leave.

"Where is this Clifton?"

"No," replied the stranger, "nor in

prefacing it with the question.

bed rooms are .- it is pretty full.

just enjoy herself.'

to the mountains."

works?"

Home at Fairfield.

had four children."

my comfort."

shall suppress all names.

HAT IS MY COUSIN him before she died?" asked Laura usie Lee, and that is her pitifully. husband; that fat baby is her oldest; we ain't got for many a year," answered Izannah, no picture of her other cheerfully. It was her turn now, not children, though she's been Ida's "She's beautifully settled in the a-promisin' them to us this Old Ladies' Home over to Fair-

long time. That other field. One of us goes to see her every baby on the opposite page, the one-with year or two. You see when Abner got the cunnin' bare toes, is Abner's young- married, bein' the oldest son, he and Ida est taken good 10 years ago, -and so on, naturally chose to live on the farm : and and so on, until every picture in Seth | as Ida had to have her mother with her Ballard's photograph-album had been there wa'n't no place there for anybody rescribed in full to the somewhat weary

But what else could Ida, Abner Ballard's wife, do to entertain the guest, a lady from New York, who knew no one farmin', anyway. Mark took his love in the little town of Clifton save the cousin who was her hostess? Laura Martin, the guest, knew nothing and cared nothing for the details of farm life; in fact, she detested the country. and would never have come to this quiet place but that she had been ordered here by her physician.

The cousin whom she was visiting, Rufus Martin, was almost a stranger to her; and his wife and her family she had never before seen or heard of. She exerted herself to be cordial to them, and round the house, I hadn't no time to never allowed them to suspect how fearfully she was bored. This afternoon she and her cousin's wife, Izannah, were visiting Abner Ballard; and his sister Izannah, and Serena, his brother Seth's wife, were also there assisting to enter-

Serena would every now and then disappear into the kitchen, and then after a moment's pause Ida would follow her. During one of these brief absences, while Izannah was attending to the wants of her youngest baby, Laura, being left to her own resources, began to examine the gayly-bound books which lay on the center-table carefully piled and mathematically equidistant. Presently she saw a volume of poetical selections not quite so new nor so shiny as its companions; and, as she was glancing over its contents, she came upon photograph which represented bright-eyen, curly-haired, good-looking fellow about 19 or 20 years old.

"Who is this good-looking young man, Izannah? His face is very familiar," said she, showing the picture to Mrs. Martin.

"No one whom you ever saw," answered Izannah, with a flushed face and

confused air. "Ah ha! One of your old beaux, must say that he is 10 times as good-looking as Rufus. I am surprised you didn't take him instead of my you've heard of the Barnum matchworthy but very homely cousin. Do

tell me about him." "Nonsense! he wasn't any beau of mine. Put the picture away; I don't want to talk about him," answered Izannah in the abrupt, snappish manner common to her when she was tired or busy or worried or sleepy-in fact, her usual

manner when at home.

Laura fully appreciated the many domestic excellences which Izannah possessed; she saw that, like her brothers, she worked early and late and could make a dollar go as far as five times its value would under the manipulation of most people. The Ballards were proverbial in Clifton for their industry, their ability to do everything quickly and well, their sobriety and promptitude, and, also, for their economy; only most people thought that in them virtue degenerated into the vice of stinginess. Success was the standard by which they measured everything and everybody; and success, to them, had none but a pecuniary meaning. They were, perhaps, a little "sharp" in their busiless dealings, but they never quite crossed the line into actual dishonesty.

At that moment Ida entered the room, and Laura appealed to her to know who was the mysterious original of the pic-

"That? Why that's Mark Ballard, my husband's youngest brother. I'm sure, Izannah, you needn't try to disown him, for everybody in the County knew him. He was the youngest of the family, and no more like the Ballards than chalk's like cheese. He was idle by nature; and, as his father died when he was only 10 years old, it never got beat out of him as it ought to 'a' ben. Mother Ballard hadn't no more force to ber than an old settin' hen. He was her pet, and she certainly did humor him to death. Well, it turned out as it always does when one child is petted to extremes and the others taught to work as they'd ought to do; Mark got lazier and lazier, Youldn't do nothing about the farm, wouldn't go into the mills, wouldn't do tothing but read, read all the time; aid he wanted to be a scholar, which was Edic'lous in a poor boy like him. He and his brothers didn't agree, and, anally, he ran away and went to the bad. He ran into debt and took to drink, and as we ain't heard nothing of him for nigh onto 15 years I s'pose he's dead. No freat loss if he is," added Ida, not unilling to exhibit the deep hue of the Pallard black sheep. There was not a teal sisterly love between her and Izan- ent."

"Did his mother give up all hope of am Clara Ballard, your son Mark's profits for the farmer.

wife," cried the visitor, embracing and kissing the surprised old lady. "You shall be in a cheery home of your own before this time to-morrow. Willie, come and kiss your grandmother. Isn't he the image of his father?" added Clara Ballard, proudly, as the boy came forward at her bidding.

"My Mark is alive again in him!" "Your Mark-our Mark-is himself alive and well, mother. He was a little wild at first, he says, and unfortunate in everything he undertook; but he grew steady, and then he persevered in one thing instead of trying first one, then another, and, finally, got into good practice. You knew he was a doctor, didn't you? No? He is one of the leading physicians in our State. He wrote ever so many letters to you, but got no replies, so we thought you were dead.

"I never heard a word from him! His brothers were always so afraid he'd come home to be a drag on them that one of them must have destroyed those letters. They always got our mail from the office."

" He never will be a drag on onyone! know he was a good son, mother, for he is the best husband that ever lived; and when my uncle died a year ago and left me a fortume, I was glad to get it so that we could have more to give away, bless him! Come, mother, help me pack your things and I'll take you home else's mother. Indeed, the two of 'em as a welcome present to Mark.

Someone, Clara Ballard never said poison; so mother had to give up the that she knew who, had inserted in the next issue of the Clifton County paper (which Abner and Seth took) a long article describing the remarkable manner in which "Dr. Ballard, our for there wa'n't no room for her; his former townsman, now the most able house is dreadful small, and come to lung specialist in the State of Nget three hired men and Seth and his than whom there is no more honored, wife in them atties'-for that's all his generous, and useful citizen in our



ISN'T HE THE IMAGE OF HIS FATHER."

whole country," found his mother in the Old Ladies' Home in Fairfield. It also gave an account of his handsome house and of the warm, sunny, luxurious room which his little ones now call "grandma's room," where they love to gather at twi- The roses at my lattice softly tap, light and hear long stories of how thoughful and obedient their father was My wife gets up to build the kitchen fire! thoughful and obedient their father was in his boyish days.

Oh, how Abner and Seth did grind you a little incident which illustrates the black sheep was the very reverse of Wara 9. A town of thins. 4. Constitu-black, not even a gray hue: Trow one of thin General: 1763-1819 6. Tropy of the French monarchy. 5. Ausvery trait, heartlessness, of which we were just speaking. But of course I them wished he had read a certain letter or two before he burned them, unopenever, Laura involuntarily let fall the ed: then he would have known that, inname of Ballard as well as one or two of the Christian names. When she had stead of begging money, the truant had some to give away. And, horrid 12. Seas. (Cent.) 13. A letter. thought! mayhap one of those letters had money in it! He never knew, nor "It is near a railroad center called dared to ask .- Demorest's Family Mage Barnum; indeed, it was called Barnum zine.

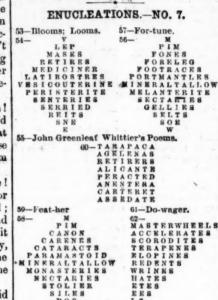
Canaigre.

Canaigre (three syllables, accent on the second), the new tanning material place where I leave the boat. Let me which is coming into such extensive use, bid you good-by, with the hope that we to the great profit of the farmers of Arimay meet again some time"; and so zona, New Mexico, and that region, is a species of dock, which grows and thrives in quite dry soils. It has about 24 per cent. of tannic acid, where ordinary P. R. James puts it) entering the comdock-green-has only 2.47 per cent., fortable, if lonely, little room assigned to and green sumach leaves 15.50 per cent. Oak and hemlock barks have from eight to 10 per cent. of tannin.

The planting is usually done early in the Fall, not later than the 1st of November if possible, and by early Spring hey are in blossom. Loose, sandy soil is selected, and after the ground is broken thoroughly, single roots of the plants are lies sleeping there now, and my three dropped in rows nearly three feet apart and from six to nine inches apart in the rows, and about five inches deep. When the young leaves begin to come up they and I understood him to say that you look like a field of beets or sweet potato vines, although as they develop the con trast becomes more decided: In fact, the roots of the canaigre plants have the general external appearance of sweet potatoes even to the time of digging, and they are produced in hills of from three to a dozen, varying in size and quality. The weight of each tuber is from two to 18 ounces, and when a hill is first pulled up a stranger might be forgiven if he declared that it was a hill of wild sweet potatoes.

An acre carefully cultivated and irrigated will yield from 20 to 30 tons of green roots, which when dried for shipment will shrink to seven or ten tons The value of canaigre roots properly LAURA TOLD THE LADY WHO SAT NEXT TO dried varies somewhat in this country and in Europe. In the rough, dried "Yes; I had four children, but my state canaigre roots sell to-day at from youngest is-oh, I don't know where; \$25 to \$30 per ton, and the prices in Europe range from \$50 to \$80, and thus dead, I am sure, as it is years since I heard from him. Poor Mark! He was far the supply for the foreign markets has not been equal to the demand. This is due partly to the fact that only re-"He may have been, but if he was, cently the value of the plant has been demonstrated and the industry is only others were to blame. He was always good to me. They called him lazy; getting fixed. The tannic acid from but he never let me chop a stick of wood canaigre is superior to that obtained or draw a pail of water. I never took from any other source; and it is especiany extra steps when he was round. He ally adapted to tanning uppers, fine didn't love to work maybe, as the others saddlery and fancy leathers. It is said to be valuable in the manufacture of dyestuffs and mordants. According to "Ye-es; but it's kind o' lonesome the present demand for dried canaigra roots the lowest estimate of the yield ometimes, 'specially when I remember would be \$175 per acre, with the averthat Abner and Seth and Izannah have all got good, cheery homes of their own. age probably at \$225 per acre. The cost of planting and cultivating a crop of canaigre is about the same as that of "It shall be different yet, mother. I a sweet potato crop, leaving much larger

[For the leisure hour of readers, old and young. All are invited to contribute original puzzles and send solutions to those published. Answers and names of, solvers to this issue will appear in two months. An asterisk of after a definition signifies that the word is obsolete. Address letters for this department: "Puzzle Editor," American Farmer, 1729 New York Ave., Washington, D. U.



The above is a list of answers to competitive batch No. 3. Author: NYPHO.

ENIGMANIACS.

H. S. Nut, Aspiro, Ivanhoe, Zaida, Waldemar, Harry, Eugene, Serpeggiando, Sacra-mento Rose, A. N. Drew, Newcomer, Cosette, Jo Urnal, Ernest, Cynicus, Cecil, Wm. Wall, Pearl, T. O'Boggan, Lillian Locke, Nyas, Christo, Nypho, Pallas, Ellsworth, J. C. M., Prudence, Sphinx, G. Race, Alumnus, Arty Fishel, Lucile, 2 E. Z., F. L. Smithe, Guido Dromio, Nydia, N. E. Body, Carl, K. T. Did, A. P. Rinter, Esperance, Mesa, Anne Koe, Kent Klasby, Adelante, Senorita, Lew Ward, Presto, Calo

Prize Winners. 1. T. O'Boggan; 2. Cecil; 3. A. P. Rinter;

ENIGMANIA.-NO. 10. NO. 83-CHARADE.

Dawn. Over the hills appears a glorious ONE Flower of the Sun-god's troop, a wondrous

All in a golden glow of amethyst, And the sweet Winds to meet it laughing

run. The fair Earth, like a maiden newly won, Hasting with TOTAL coyness to the tryst, Unclasps the clasp of her dark robe of mist

Before the ardent glances of the Sun. Two hear the cock's loud challenge in the

The thrushes chant their matin song divine, I lie and list unto the feathered choir.

-ERNEST, Nash, Mass.

NO. 84-DIAMOND. in Lozere. (Worc.) 7. Long, stout staves, formerly used as weapons of defense and offense. 8. Vents. (Bailey.) 9. Animal substances found in the skin. 10. Town.

-DAN D. LYON, Irwin, Pa.

Meridian. Slain by the Sun-god's of mid ONE fire The mead-blooms lie upon the pasture's

The robber bee LAST in his treasure-house at rest; The glad sky-lark, his joy-stringed silvern lyre
Mute, crouches where the inceuse-laden brian

Spreads its fair canopy above its guest. All these the silent sway of noon attest, Robed in their ruler's pale, gold-white attire.

Some wizard's spell-lies here. An hour ago The blossoms throbbed beneath the breezes' flow; Now in the sky-sea float the calmed cloudships,
And soft ENTIRE the dozing meadows steep;

For Silence, with her finger at her lips, Holds jealous vigil over Nature's sleep. —NYPHO, Germantown, Pa.

NO. 86-HALF-SOUARE. 1. A letter. 2. Denoting two atoms. 3 But (M. & S.) 4. To snare. 5. A searce. 6. One who drives a car. 7. Italian traveler: nut trees in Italy. (Nuttall.) 10. King of the Suevi, in Spain; 410-40; d. 440. Greek or Latin proper name. 12. An old name of fumaric acid.

-PALLAS, Pawtucket, R. I. NO. 87—DECAPITATION. Twilia4t.

Half-weary of the last caress of Day, Nor eager yet with her dark love to plight, She stands between the twain-a soft delight. Clad in her FIRST of pure and boly gray. And who shall speak her praises?

say What dreams are bers, ere her swart lover, Night, Shall bend to kiss her, and in kissing smite

The very essence of her life away? So let her stand! And in that sweet, short space She calls her LAST, mark well the peace

which lies
Within the tender dreaming of her eyes—
Reflex of all that earth holds pure and good—
Then leave her, in her tenderness and grace,
And hustle up your kindling, coal, and wood!
—Guidon, Washington, D. C.

NO. 88-HOUR-GLASS. 1. Pimpernels. (Century.) 2. A principle drawn from different sciences. (Century.)
3. Capabilities of being decomposed by an electric current. (Century.)
4. The quality or state of being preternatural. 5. Disease of the pericardium. (Century.) 6. Cleansing. 7. Enslaving again. 8. A kind of short-bar-reled pocket pistol. 9. A scarf. 10. To shrink. 11. East.* 12. A letter. 13. Art. (Century.) 14. A commune of France. (Fullarton.) 15. Reserved. 16. To vanish. 7. Acting in opposition. 18. Beyond of outside of the tropics. 19. Supposed ancient name of Vilaine. 20. Curacies in which all the tithes are appropriated, and no vicarages are endowed. 21. Apparatus for generating voltaic electricity. 22. The conium herb. (N. M. D.) 23. Certain muscular fibers, partly plain, partly striated. (Century.)

Century.)
Centrals.—Down: Climbing plants of Aus-

tralia. (Century.)
-A. F. Holl, Lynn, Mass.

(Century.)

been argued and re-argued until the majority of puzzlers are intensely wearied of it, we do not think it amiss to publish a portion of ALUMNUS'S Department Committee Report, read at the last Convention of the E. P. L. as

The Obsolete Word Question.

While we fully appreciate the fact that the obsolete word" subject is one which has

he cites an authority few of us may, perhaps, be familiar with. The report states It is with sincere regret that we note BEECH NUT's flat against the obs. word, for its issuance, in our opinion, seems unwise in the extreme. The pulse of Thedom has been so often felt on this subject, that we feel ourselves safe in declaring that the obsolete word is acceptable to the majority of puzzlers, and that its use in a form is not regarded as a blemish. Personally we cannot see how a dead word, any more than the name of a dead city or a dead man, impairs the purity of a form; in fact, if anything, we prefer the dead ase; while the odds against the dead city and GERMAINE to cover them. No argument we might advance could be more to the point than the following excerpt taken from a work entitled "Elements of Rhetoric," by James De Mille, M. A., published by Harper Bros:

"It is, in fact, somewhat difficult to say what werds are really obsolete and what are peasare slow and weak. We quote: GERMAINE to cover them. No argument we what words are really obsolete and what are not, for religious literature and poetry have so familiarized old words to the reader that they are seldom obscure, and their employment becomes a question of taste rather than of perspicuity or grammatical purity. In fact, obsolete words are regarded with much favor by many of the best writers of the present day. Increased attention to the study of Early English has led to a very general effort to revive the use of many words; accordingly, a large number may be found which have actually come back into prose literature after temporary banishment. We may see, in a comparatively recent period, the revival of such words as benison, malison, outrance,

than ever before. "Obsolete words have been introduced in former periods, as may be seen from a few brief statements. In Spenser's day, objections were made to such words as dapper, scathe, askance, embellish, forestall, fain, and others which soon came into general use. In the 17th century the following words of Chaucer were considered obsolete: cave, blithe, bland, franchise, sphere, transcend, About the same time other words were called obsolete, as strath, landlouper, yelp, thrill, dove-tail, curdle, grisly, vicenage, tapestry, villiany. All these and many others like them, though once rejected by critics, are indispensable to pure literature at the present

ALUMNUS further submitted that while the editor of a puzzle paper had the unquestion-able right of conducting his paper according to his own ideas, it was but fair for him to give consideration to the wishes of those from m he must draw his support, failing in which he could have no just ground for com-plaint if they did not raily around his stand-

We print the above, without comment.

ENIGMIANA.

The idea of a trio of sonnets as presented this month was conceived last July, when Nypho and Ernest were on a visit to Washngton, and has been very successfully carried out. Each one of the three is a gem.—
Formists Holt, Pallas and Dan D. Lyon, unmistakably the "big three" of the East, are well represented, though the first named would perhaps appear at better advantage in some other line than the Hour-Glass-from the solvers' standpoint, at any rate. Let us hope we may present as good an assortment of puzzles each month. — Cinders, Nyas, Hes-perns, M. C. S. and all other friends are cor-dially invited to send us contributions for futpre numbers and our newer friends-whom we hope to make from the large number of zlers to whom this issue will go-will kindly fall in line also. Through various other publications clubbing offers have been made, whereby "The Enigma" may be secured for one year at a remarkably small sum—so small that it should be in the hands of every active mystic. Drop us a line if you would like to earn the terms. - Four valuable prizes will be awarded among solvers of above tangles. Who will win prize No. 1 for first complete list of answers? - A positive dearth of time will account for the incompleteness of our last number. We will guard against a repe-

COTTON AND TOBACCO.

Their Relative Value in South Carolina.

To show what can be done in farming, to challenge comparison with the State and to give in figures a showing as to the comparative value of tobacco and cotton, the result obtained on a onehorse farm is given. Thirty-two acres were planted and cultivated by William Harvey, a colored man, who was farming on shares with Mr. C. S. McCullough. The statement appended shows that on 32 acres of land worked by a colored man, who hired all his help, including his mule, a net profit of \$792.52 was made. Fifteen acres planted in cotton, with the large yield of 18 five-hundredweight bales and the seed from these bales, all sold for \$580.71. On 10 acres of tobacco, one-third less than the acreage planted in cotton, the tobacco made sold for \$909.71; nearly twice as much ne was made on 15 acres in cotton. For the instruction of those who care to see, the detailed statement below gives the exact figures as are shown by Mr. McCullough's books: Ur.

10 acres of tobaccosold for.

15 acres cotton, yield 18 bales, 500 lbs, each, sold for.

Cotton seed sold for.

5 acres corn, 110 bushale

a acre sorn, 10 obshels. 15 bushels pens. Hay, valued at \$50, worth more	18 00 10 00 50 00 94 80	scarce, and are quite firm. Capous are steady. Choice turkey hens are quite firm, and fair and good birds are steady. Ducks are rather scarce, and are firmly held. Geese are rather quiet. Choice tame squabs are firm. Choice, plump wild ducks are scarce and firm, but thin birds are neglected. There is a fair demand for choice frozen partridges. Grouse are scarce, and
-	\$1,889 22	really choice birds exceed quotations. Quail are firmer. Live pigeons are steady. We quote:
Paid for rept of mule	\$25 00 100 00 100 00 178 30 49 75 55 00	LIVE POULTRY. S1 25 a\$1 50
for seed, etc	586 62	Turkeys, mixed, per pound

Net profit on 32 acres, \$792.55 - Charleston (S. C.) News and Courier.

\$1,096 67

A Book You Should Have. What to plant and where to get it, is the story told in the New Seed Book for 1895 issued by J. J. Bell, Binghamton, N. Y. Every line of this interesting work shows evidence of the most careful preparation. The illustrations are not overdrawn as in many seed books, and the descriptions, while complete in books, and the descriptions, while complete in detail, are scrupulously correct. It is printed on good paper, in good, clear, readable type, and will prove a valuable source of infor-mation to all who receive it. Mr. Bell's straightforward methods have given him an enviable prominence as a seedsman not only in New York State but throughout the country. Mailed Free to all who apply for it.

THE MARKETS.

Review of the Fortnight.

Produce. New York, Jan. 29.—Butter—Although the demand for butter is moderate, the light receipts and cold weather have inspired holders with confidence, and fancy Western creamery is hold firmly. Other grades of creamery are not much sought. Fancy State duiry is scarce and firm, but under grades are rather dull. Choice imitation creamery is steady, and there

State dairy, half-firkin tubs, choice, per pound.... State dairy, tubs and firkins, choice, per

state factory, September make, large, 10;all white, fancy, per pound.
State factory, September make, large, colored, fancy, per pound.
State factory, full cream, choice, per pound. .. alli pleasaunce, guerdon, and others of like nature; nor is their revival confined to our own time, choice, per pound..... State factory, part skims, small, fair to although it is certainly more extensive now

pried Fruits and Nuts—Choice evaporated apples are held with much confidence. Sundried apples are quiet, but chops are quiet firm. Cherries, raspberries, and blackberries are rather, scarce and are quite firm. California apricots and peaches are steady. Hand-picked peanuts are quiet. Shelled/peanuts are firmer. Pecans are quiet. Hickory nuts and walnuts are dull. We quote: Apples, evaporated, fancy per

Apples, evaporated, new, choice, Apples, sun-dried, sliced, per pound Raspberries, sun-dried, per po Blackberries, per pound...... Plums, State, per pound...... Apricots, California, new, Peaches, California, peeled, per . 12 0 16 Peaches, California, unpeeled, per pound

with much confidence, and limed eggs are considerably firmer. We quote:

Fresh Fruits-The demand for apples is mod-Fresh Fruits—The demand for apples is moderate, but holders feel very confident and maintain prices firmly. Receipts of cranberries have been quite light, and with a good demand, prices are very firm. Oranges are quite irregular in quality and price. Choice oranges, free from frost, are rather scarce, and meet with ready sales at full prices, while frosted fruit is dragging and is being urged for sale. Choice grape fruit is steady. We quote:

Apples, Baldwin, Northern, prime,

We quote:

Hay, No. 1, per 100 pounds...

Hay, No. 2, per 100 pounds...

Hay, No. 3, per 100 pounds...

Hay, clover, per 100 pounds...

Hay, slover, mixed, per 100 pounds...

Hay, sait, per 100 pounds...

Long rye straw, per 100 pounds...

Short rye straw, per 100 pounds...

Ont straw, per 100 lbs...

Wheat straw, per 100 lbs...

Poultry and game—Receipts of livery frozen partridges. Grouse are scarce really choice birds exceed quotations. are firmer. Live pigeons are steady. We q

DRESSED POULTRY. Chickens, Philadelphia, per pound. Chickens, State and Pennsylvania, dry-packed, per pound. Chickens, Western, choice, per pound. pound...
Chickens and fowls, mixed, West-ern, fair to good, per pound.....
Fowls. State and Pennsylvania, prime to choice per pound.....
Fowls. New Jersey, prime per 94 a 10 Fowls, Western, scalded, choice, per pound.
Fowls, Western, scalded, choice, per pound.
Fowls, Western, common to fair, per pound.
Capons, Western, large, per pound.
Capons, Western, medium size, per 84 a 9

101

Turkeys, scalded, hens, choice, per pound.... Ducks, Western. common, per pound

6 a 7 Vegetables—Domestic potatoes are rather quiet and are being urged for sale. There is a fair demand for Bermuda potatoes. British potatoes are slow. Sweet potatoes are quite dull. Choice, large, white onions are firmer. Yellow onions are steady. Red onions are not active. Prime domestic cabbage is steady. Choice imported cabbage is firm. Spinach is scarce and firm. Squash is quite steady. There is very little lettuce on hand, and most of it is of poor quality. We quote: Potatoes, Michigan, prime, per 180

81 50 a\$1 75 Potatoes, Maine, Rose, per doublehead barrel.
Potatoes, Maine, Rose, per sack...
Potatoes, Maine, Hebron, per sack
Potatoes, State, Rose, per double-pound
Potatoes, State, poor to good, in
bulk, per 180 pound,
Potatoes, New Jersey, prime, per Potatoes, New Jersey, prime, per barrel.

Patatioes, New Jersey, poor to good, per barrel.

Potatoes, Bermuda, prime, per barrel

Potatoes, Rermuda, No. 2, per baroes, Bermuda, No. 2, per bar-Potatoes, Scotch, per 168-pound Potatoes, English, per 168-pound barrel... 4 00 a 7 25 Onions, Western, yellow, per barrel 1 50 a 2 00 Cabbage, domestic, per 100... 2 50 a 5 00 Cabbage, imported, white, per 100... 4 00 a 7 00 Celery, near by, large, choice, per Celery, Michigan, large, per dozen roots.

Celery, stort, per dozen roots.

Turnips, Canada, Russia, per barrel
Kale, Norfolk, per barrel.

Spinach, Norfolk, per barrel.

Spinach, Baltimore, ber barrel.

1 Squash, marrow, per barrel.

Tomatoes, Havana, per crate.

Tomatoes, Key West, per orate.
 Okra, Havana per garrier
 3 00 a 4 00

 Lettuce, Florida, per half-barrel
 1 50 a 4 00

 basket
 1 50 a 4 00

 Peppers, Havana, per carrier
 3 50

 Carrots, unwashed, por barrel
 5 0 a 75
 arrots, unwashed, per b Sundries.—We quote: Honey, buckwheat, two-pound boxos, per pound. 9 a Honey, extracted, State, per pound. 5 a Honey, extracted, Southern, per gallon. 40 a 40 a 6ia 65 a Maple sugar, prime, per pound..... Grain.

CHICAGO, Jan. 30 .- The following shows the en, High, L 9‡ 504 4 2‡ 584 5 3‡ 54‡ 53 0‡ 41‡ 46 1‡ 44‡ 48 1 28 27, 29 28, 9.70 9.50 10.02 9.72 6.37 6.30 6.55 6.42 5.06 5.22 5.20 Corn.. July..... January. May..... January..... May.... January.... May... Pork ... Lard .. Ribs .. January Cotton.

Op'g. High. Low.

NEW YORK, Jan. 30.-The following shows February..... March..... May....

Corn in North Carolina.

The Wilmington Messenger cites a number of instances in proof of its claim that North Carolina may be made a corn-growing State. It mentions the case of a Northern farmer, who a few years ago settled in one of the extrem western Counties of North Carolina, where he bought a worn-out farm of 300 son County, 11,000 bushels of corn. There is enough in these figures to show that the farmers of the old North State can raise their supplies at home if they have a mind to.

Pineapple Wine.

"The pineapple growers down in Florida are experimenting with a view. to making a sparkling wine, like champagne, from their surplus fruit," said William R. Andrews, of Orlando, last night. "There is a pretty big waste in a pinery of large proportions, and if this could be made use of the business would be doubly profitable. The Florida pine is about the juicest thing that grows. You seldom see one in this city, as the growers have their crops pretty well contracted for in the North. New England cities are particularly partial to our pines, and I know of one grower who has a regular arrangement to send all his fruit to Hartford. If the wine making I have mentioned can be successfully prosecuted and the tendency of the juice of the pine to thicken can be overcome, I imagine that about all the fruit raised in Florida will be devoted to the industry, for the wine in a few bottles which had managed to escape, being affected by the many evils which appear to surround the liquor and prevent its maturing, is said by connoisseurs who tasted it to be a revelation of delight to the palate."- Washington Star.

It is estimated that three and a third millions acres of arid lands in South Dakota have been reclaimed by irrigation, at a low cost. The value of these lands before irrigation was estimated at \$77,000,000, while now they are rated at nearly \$300,000,000.



Not Very.

Helen-I've been trying for two years

After Reading.

"If that was my poem, Mr. Pen-scratch, I wouldn't have let him print it

Matrimony in the Mountains.

"Molly's run off with the revenue detective!"—Atlanta Constitution.

As We All Well Know.

Her Choice.

"You crush my heart," he protested

"Better thy heart," she answered, than my sleeves."—Detroit Tribune.

A Certainty.

think it was. If you could 'a' seen us

A Correct Impression.

ceived her first ocean bath at the beach

one day, and, having only the family

Just as Good.

Clerk (in the country drug store)— Why—why, I don't think they keep it

Unselfish Woman.

"Mandy," said Farmer Corntossel.

"Because er woman is allus smart

enough ter turn her hand ter anythin'

thet comes along, but politics is all some

A Simpler Plan.

housekeeping, and I presume the sim-

plest plan will be for me to give you a

regular amount every week for expenses

Mrs. Newed-I could never do that

in the world-so many things to count,

you know; but let-me-see. Oh, I

have it! I have thought of a much

Mr. Newed-All right, my angel,

Mrs. Newed-You figure up what it

will cost you for car fare and lunches.

and give me the rest .- New York

The Good Man and His Flock.

took permanent leave of his congre-

gation in the following manner:

A country minister in a certain flock

"Brothers and Sisters: I come to say

have not paid my salary. Your do-

nations are moldy fruit and wormy

go ye cannot come, but I go to prepare

How Much Feed?

however, phenomenal cows, truly, and of

these all will die of over-feeding if it is

continued. Probably 15 pounds of hay

and 10 to 20 pounds of grain food is as

much as can be safely given to any cow

for a lengthened time. The rule is to

begin with this quantity of hay, cut it,

and wet it, and mix the ground feed

with it, first giving four pounds at one

feed, gradually adding half a pound or

one pound every week, and noting the

mercy on your souls. Good-by."

Just figure up what it will cost.

Mr. Newed-Well, we are beginning

men air fit fur."- Washington Star.

Customer-I'm a stranger in your

Frances, three and a half years, re-

you'd believe it was wild."

Breakfast Table?"

the road.

offices.

"Why not?"

simpler plan.

what is it?

Weekly.

know them?

At the dinner table in a country hotel

embrace, but she waved him back.

" No," she said imperiously.

"Hurrah, dad! Start up the still!"

"I only got five dollars for that poem."

to make him speak .- Life.

"What's up, Jimmy?

for \$500."-Life.

such scarfs.

As swiftly o'er the loc they flew,
As snowflakes whirl,
With no one nigh, what could be do?
He hugged the girl.
Inconstant man! A crash, a crack,
A distant roar
Procleimed a thaw, and then, alack!
He hugged the shore.

— Washindon St.

re.
-Washington Star. In Darktown.



Parson Jackson-Ephrim, it says in de good book, thou shalt not steal. Ephraim Johnson-I know that, sah, but I've been so lucky I thought I'd gib you one. Parson Jackson-The Lawd lubs a

cheerful giver.-Judge. New Chapter on the Horse. "The horse is a very useful animal," wrote Johnny in his composition," but if I can't have my sossages made of pig's meet, I don't want no sossages."-Chi-

A Streak of Human Nature.

Dickey was overheard saying his prayer the other evening at bed time in you sure that this is wild duck that you've this fashion: "O, Lord, bless Johnny given me?" "Wild! Well, I should and Billy Holiday and me, and don't let any of us die, but if any of us has got to chasin' that duck more'n 40 times round die, I'd ruther it was them. Amen." the barnyard 'fore we ketched it, I guess

Too Much Curiosity.

First Colored Gent .- Dat's a mity fine par ob pants you has on. Whar did yer get 'em, and what dey cost

'Hub, dev mout cost me two years bath tub as her gage of measurement, in de plenopotenshiary ef I tole yer," she said to her papa when he had brought replied Colored Gent No. 2 .- Tammany her into the surf up to her neck: "Oh-o-o-oh, papa, papa, take me out quick! It's too full."—Boston Herald. Times.

Why She was Mad.

" Forgive me," he pleaded, contritely, falling gracefully on one knee. "I didn't come here to kiss you, but the village. Can you tell me where I shall impulse was irresistible when I saw

"Forgive you," she snapped, "never, while I live! A girl may forgive a man for kissing her, but never for here, but they've got some first-rate apologizing afterward."-Spare Mo- mackerel at the store over there acrost

A Metamorphosis.



Sorefoot William-What yer stoppin' fer? 'Tain't nothin' but an old dress. James-"Tain't? I'll show yer. Put that on .-



-Bearded lady. See?



-Step right up, ladies and gents. Only 25 cents to see de greatest wonder in de world.-Judge.

Unfortunately Put.

"Uncle," said the impetuous nephew, wou ought to go to see the new play.

You would just die laughing."
The old man merely glared. In a few 100 pounds of food daily, and of it to make five pounds of butter. These are, moments later there could be heard the sound of a scratching pen, as he altered his will for the 44th time. - Cincinnati

Will It Work this Way?

The Speaker (in the Colorado Legis lature)-The vote having been counted, I declare the motion of the lady legislator to be lost.

Legislator-O-o-oh! The Lady

(Weeps copiously.)
The Speaker (blanched and in haste)
one pound every week, and noting the results. As long as the product in--With the unanimous consent of the creases and the cow keeps well, this may House I will declare the motion carried. go on.

THE DAIRY.

Armour & Co.'s injunction against the New York Agricultural Commission to prevent its attempts to restrain sales of oleomargarine, was dissolved at Utica,

The milk factory at Amenia, N. Y., contracts for milk by the 100 pounds instead of quart. They pay \$1.50 per 100 for October, November and December; \$1.40 for Feburary and May; \$1.30 Ada-Is Jack Rogers a talkative

forcing process must not be begun too soon nor pushed too rapidly nor should the feed be too rich.

Try a currycomb and brush on the cow as well as on the horse. Unless the cow is very thin the currycomb will be liked even better than the brush. The dirt in a cow's hair is always liable to get into the milk pail, as it is brushed out when the milker rubs against the animal in getting out of the narrow

Drummer-What induced you to put Vermont is pre-eminently a dairy in that line of neckties? No man east State. For a quarter of a century she of the Rocky Mountains would wear has had an organized State Dairymen's Association, doing work among her Haberdasher—Why, those are just diarymen for the enlarging and improv-ing of her dairy work. In this work the kind women pick out for presents .she has led the country, and the association to-day is one of the strongest and most efficient of any in the country. He would have gathered her in a warm

A good cow may often be found among any or all of the different breeds. The cow to be selected is the one that will not only pay her keeping, but show a good profit at the end of the year, and with a record book and scales in the stable and a Babcock tester in the milk-room, each cow makes to her owner a monthly statement of the part she takes in the busia guest says to the waitress: "Miss, are

Dairy farming is the highest type of agriculture. A farmer of this class must look for success in the maximum productiveness of a few acres. The successful operation of such a farmer presupposes concentration of effort and acreage. A thorough understanding of fertilizers, their nature and application, may be regarded as the first principle of lus No. 41 which had been prepared in a dairy husbandry. While the com-mercial fertilizers are beneficial, the farmer should strive to husband and make more effective the fertilizers of

The day is coming when every stockman who hopes for the best results in dairying must literally bathe his animals in a flood of sunlight. We shall have glass on all sides of the barn and double be likely to find the "Autocrat of the it when radiation threatens to cool the building too rapidly. The same principles of construction observed in the plan of a poultry house and a conser vatory offer the milk farmer the proper type of barn. Hereafter the new type of barn will afford a breathing space of at least 1,000 feet per head. Perhaps some way may be found of introducing air into the barn in Winter at a temwouldn't you like ter be a 'mancipated | perature of the subthermal line. This woman, an' go ter the polls an' vote?" | might be easily accomplished in drawing "No, sir," was the positive reply. air through a 12-inch vitrified pipe "I don't think it's fair ter the men fur 200 feet or more, at a depth of 12 feet women ter be tryin' ter grab the from the surface .- Prof. JAS. CHEES-MAN.

THE COW-TAIL HOLDER.

A Wisconsin Man Fills a Long-felt Want by His Invention.

Persons whose vocation lies partly in milking cows are well aware of the great annoyance caused by the animal switching her tail about promiscuously, notably in fly time. The annoyance is multiplied in case the tail is dirty or wet, which is very often the case. The end of the tail either takes the milker in the face or neck or flirts into the milk pail; perhaps both events happen.

The present device, which is here illustrated, has been patented by Mr. Joseph Cooper, of Racine, Wis. It is



the most rationally constructed device good-by. I don't think God loves this for the purpose that has yet been conchurch, because none of you ever die. I don't think you love each other, because I never marry any of you. I to manufacture. A strip of elastic sheet don't think you love me, because you metal is bent to form a circle, the meeting extremities being rounded apart to form easy contact points. Two opposapples, and 'by their fruits ye shall itely disposed pieces are riveted to the circular clasp, the free ends projecting "Brothers, I am going away to a to form handles, the compression of which within the hand grasp opens the better place. I have been called to be Chaplain of a penitentiary. Where I clasp points well apart and allows the device to be slipped on the tail, and then the rounded points are allowed to a place for you, and may the Lord have close within the deep recesses of the gambrel joint, where they take secure hold. The operation is very easy, and will effectually confine the tail during In general a cow may be given all the the milking operation. This device food she will eat and digest and turn into milk and butter. Some few cows should sell on sight if put on the marhave been able to thus dispose of nearly

ket. WHAT A WOMAN CAN DO! WHAT A WOMAN CAN DO!

I want my lady friends to know of the new field now open for them. In the past of months we have made a profit of 500,000 after paying all expenses. All our sales have been made at home, not having canvassed any My official duties calling me away most of the time, I left the Dish Washer business in my wife's control with the above results The business is rapidly increasing, and will continue to grow until every family has climax Dish Washers. Not a day passes bu what we sell one or two, and some days fit teen or twenty Dish Washers. It's easy sell ing what everybody wants to buy. You can wash and dry the dishes perfectly in two minutes. For full particulars, address the Climax Mfg. Co., Columbus, Ohio. Get a samply washer and you can't help but make money They only cost \$5. You may just as well be making \$5 a day as to be doing nothing.

"JUNE" BUTTER IN WINTER.

Artificial Ripening of Cream by an

Prof. H. W. Conn, in some experinents in his bacteriological laboratory at Wesleyan University at Middletown, Conn., has made a discovery of importance to every one interested in the making of butter. It is well known that as butter making has been conducted it has been impossible to make the best butter in the Winter time. In spite of every effort dairymen have been unable to produce from November to May butter equal in flavor to that made in the Sum-Unless a cow is brought up to her full mer. The latter has a peculiar flavor, particularly noticeable in June. For calving her possible yield cannot be reached during her period of lactation, as "June" butten Prof. Conn's disor before having another calf. But the covery will enable dairymen to produce covery will enable dairymen to produce a peculiarly fine quality of June butter

throughout the year.

The first step in butter making is known as ripening the cream. It is a process much similar to the fermentation of beer, and is similarly produced by the growth and multiplication of millions of bacteria which were originally present in the cream. The quality of the butter depends almost wholly upon the kind of bacteria in the cream, and the reason why it has been impossible to make the best butter in Winter is due to the fact. that the species of bacteria which give the peculiar flavor to June butter are present, naturally, during the cold weather. But they may be cultivated artificially, and this is just what Dr. Conn

Dr. Conn worked for a long time before discovering the particular species of bacteria which has this power, but finally, while experimenting with some butter at the World's Fair, hit upon just the kind he was looking for. Since that time he has been carrying on further investigations proving the efficacy of his bacteria and perfecting the methods of its artifical culture. As the result of his labor he has found that the bacillus which gives the best results as an organism for the artificial ripening of cream is one which he named "bacillus No. 41." The method by which it has been

proved that this bacillus would do the work required was: A half pint of milk was sterilized thoroughly by continuous steaming, so as to kill any organisms which might be present in it. After this the milk was inoculated with some bacilthe bacteriological laboratory. The milk was then set aside and the bacilli allowed to develop for a day or two, the In England there is a specimen of the oculation at the creamery, where the subsequent experiments were carried on. This culture was poured into six or eight quarts of cream and the mixture put into the ripening room. After a day or two it was churned, the buttermilk being put one side and later inoculated into the large cream vat. The cream was then allowed to ripen for the normal time and at the normal temperature and their churned as usual. Before the churning a small quantity was set aside for inconlation into the next day's cream, the process being thus kept up until the virtue of the original inoculation was ex-

soon became very strong and noticeable and was present in the butter for two or three weeks after the original inoculation, the length of time varying with unknown conditions. When the quality began to deteriorate it could easily be restored by a fresh inoculation from the laboratory, so that there was no difficulty in maintaining it indefinitely.

These practical experiments were carried on at the Cromwell creamery, one of the largest in Connecticut. The proprietors were at first very skeptical as to the value of the method, but since the results of the experiments have become known they have become convinced, and are now using this inoculation in all their butter making. Several times last year samples of butter made from the inoculated cream and of some made in the ordinary way were sent to an expert for rating, and in every case the butter made from artificially ripened cream was rated four to 15 points ahead on the scale of a hundred.

Dr. Conn is at present making arsystem of inoculation into all the large creameries in the United States. The process of cultivating the bacteria can be carried on with very small expense, and the inoculation will add almost nothing to the cost of the butter. The inocula tion will probably be furnished to dairymen in a form much resembling a compressed yeast cake.

So uniform has been the result of the experiments carried on during the last year that the value of this discovery is put beyond the region of experimentalism, and bacillus No. 41 takes rank as a species of organism whose artificial use in the ripening of cream will produce a decided improvement in the flavor of the butter. It adds to all grades an especially delicate aroma and taste.

Kerosene for Hog Cholera.

Mr. C. W. Kimball, a hog raiser of Rock Island, Ill., has discovered a remedy for hog cholera which will save 80 per cent. of all that are attacked by the disease. He says: "If used in time it will save, I think, more than that, even but, like most good things of the kind, it is kept a secret for money-making purposes. Kerosene is about as good as anything, given in the trough with water. I am now going to the Lake Charles Country, in Louisiana, to engage in raising Poland Chinas on a big THE ORCHARD.

Cullings.

If orchards are to be made profitable, they must receive as good care as other

We buy about \$4,000,000 worth of oranges and lemons from Italy per

Good drainage, natural or artificial, is essential to success. Trees are impatient of wet feet.

Well-drained lands are drier in wet Union. pells and moister in dry spells than other lands. They can be worked earlier in Spring. Trees should be made to send their

themselves against drouth. This is done orchard rather deep. Experience has shown that ashes of

all kinds of coal seem to be useful to fruit trees, and when they are heaped about the stems they keep the borers from injuring the trees. Why one apple should be red and another yellow, scientists have never

been able to explain, though it is known

that much depends on the sunshine while the chemical action is going on. G. W. McClure, of the Illinois Experiment Station, puts the "Kansas" spherry at the head of the list of blackcaps, following it with the Gregg, Nemaha and Palmer, and accords the

Turner the place of leader of the reds. Professor Bailey, of Cornell Experiment Station, recommends from 500 to 700 pounds of muriate of potash and 300 to 500 pounds of plain superphosphate per acre as annual top-dressing for mature orchards. Nitrogen is seldom needed, he says, and is too apt to force a growth of too much wood.

An exchange aptly says: Make a reputation as an honorable packer and shipper of fruit. Divers weights and measures are a hindrance to progress as well as "an abomination to the Lord." Have true barrels, crates and berry boxes, and put in them no unsound fruit. If you do, blame no one else for your losses. Pack your seconds separately, and mark them so.

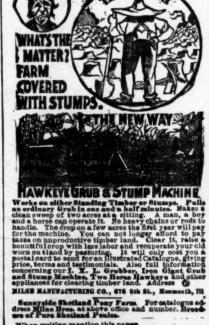
Meehan says: It is very difficult to get the age of the large trees in our country, as few have been purposely planted, while no one knows how long the wild specimens have been growing. object being to increase the number of bacteria and thus prepare for a large in-Berwickshire. At two feet from the ground it measures 23 feet in circum-

Currants and gooseberries do quite as well in the partial shade of mediumsized orchard trees as if fully exposed to the sun. Blackberries and raspberries may also be grown between the trees in an orchard, but if so one must not forgot to make double applications of plant food, otherwise the trees or the small fruits will be starved. Successful double cropping must be accompanied by double feeding.

Olive cultivation promises to increase in importance in California, and during The result of this experiment was altray as the same. The first six or eight al planting. The markets are supplied quarts of cream gave moderately good almost exclusively by imported olives The markets are supplied butter, but did not have just the flavor and olive oil, and there is room for wanted. The first large churning was growth in this direction. The new better. Then on each day the quality tariff provides for a duty of 20 per cent. steadily improved until, after two or on pickled olives against a duty-free three days, there began to be noticed a clause in the old law. Imports of olive pleasant flavor not there at first. This oil during the first nine months of 1894 were 633,000 gallons, compared with 553,000 gallons a year ago.

If young apple trees are seedlings, do not graft till they have reached such size that the cleft graft can be introduced. This is the best form for the Baldwins. Some trees do not shape bud moth is easily recognized by the well until you remove the tops. Good barn manure may be used in small material lying around on many farms and water grasses used as bedding under make one of the very best and cheapest tablespoonful to one gallon of water. of plant foods.

Keep the temperature in fruit storage houses as near as possible between 35 long in a low temperature must be speedrooms over the cellar.



Aside from the fruit of the black walnut there is said to be much profit in the timber. When planted on good ground a tree will become in a single lifetime a valuable piece of property. Seventy-five years ago a planter of Tennessee planted four walnut trees, and before he died these trees had grown to a diameter of three feet, and worth \$400 each. A Tennessee paper remarks that if he had gone through the State planting walnuts, as Johnny Appleseed 90 years ago went through the Northern States planting apple seeds, Tennessee would now be the richest State in the

Olives.

It is in evidence that trees are in bearing this season which were planted roots deep into the soil, in order to fortify by the Mission Fathers a hundred years ago, and I know of trees in this neighborby draining the soil and by plowing the hood that bore a crop this year which were planted as yearlings in 1891. I have in mind at this time a young olive orchard in this valley of some 15 acres, the yield of which this year is estimated at 8,000 to 10,000 gallons. Still, persons continue to assert that the olive does not bear. Such false assertions tend to retard the industry and do harm. I will mention a case in point. About 14 years ago a friend of mine procured olive cuttings with a view of raising an orchard, but was dissuaded by his friends from doing so, however. He planted a number, thinking that the trees they might produce would make hitching posts at least. Several of them grew into trees and have been in bearing for years. One season one of them bore 50 gallons. His officious friends succeeded in steering him clear of a competency, which but for them he might now be enjoying.

The next question is: Can the product be sold at a profit? Up to this time the yearly output has melted away so that in a few weeks after being placed upon the market it is practically consumed. The stores here in Pomona pay the growers this year 75 cents per gallon for No. 1 pickles, and persons who buy olives from the growers to convert into pickles pay five cents per pound, which is about 25 cents per gallon; but most of the growers put up their own fruit. As a paying crop, the olive stands at least on an equal footing with any other fruit crop. Even the great returns which have been sometimes realized from the orange can be paralleled by the olive It is fair to assume that the demand will keep pace with the supply. Olive-growing countries are olive-consuming countries. In the vicinity of Pomona where pickled olives may be conveniently procured for a short time each year, they are coming more and more into general use, the demand for them growing with their use. The domestic output as yet is so limited that comparatively few of the people of this State ever have seen a California pickled olive. When the masses throughout the State can procure them, the quantity required to meet the home demand will be enormous.

In the matter of olive oil the supply has never been sufficient to meet the demand, which is yearly increasing. The fear that pure olive oil will be dis placed by cottonseed oil is groundless It is no more likely to occur than that oleomargarine will supersede butter.

It is stated that the annual olive product of Italy is equal in value to the annual wheat crop of this country. JOHN S. CALKINS, Pomona, Cal.

The Apple-Bud Moth.

The apple-bud moth, which has become a serious pest in western New York, is closely related to the codlin moth, both belonging to the same family, called Tortricidæ. The codlin moth is the larger of the two, and is three-fourths of an inch across the open wings. It is a brownish color, with wavy lines on the wings, giving them the appearance of watered silk, with a satin luster. The eyelike spot on its wings and it is really as large as the codlin moth. Its full amounts for fertilizer after the first year. history has not yet been studied out, but Leaves, leaf mould, muck, and other enough is known to decide that the only effective remedy is to spray the trees could be used. Straw, leaves, brakes, quite early before the buds have opened. Paris green is the agent used, mixed horses, and worked over by the pig, with water in the proportion of one large

His Way.

An Ohio man who owns or controls and 40 degrees Fahrenheit. Fruit stored | 75 acres of peach orchards, and is most successful, believes that the trees can be ily disposed of when taken out. Apples kept in productive condition for 30 years and other fruits stored in ordinary house by proper pruning. He cuts back secellars will soon be affected by more or verely each year, leaving only two less rot, and should be sorted over fre- or three buds of the new growth. He rangements for the introduction of this quently, so that the rot-spotted speci- never lets the trees get over 10 or 12 mens can be taken out promptly. This feet high, and as the tree gets aged reis just as necessary for the protection of moves some old wood to keep the top the remaining apples from infection as that of the health of people living in renew a tree with entirely new wood in the top within five years, and thus keep the tree vigorous. By cutting back to two or three buds he thins the fruit, and believes that this is the only true method of thinning fruit.

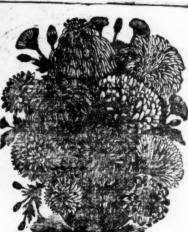
The Best Milk Ration.

EDITOR AMERICAN FARMER. Please state in your valuable paper the best feed for milch cow, hay, clover, or common corn fodder .- A RAILROADER, Perry Co., O. [Now, that's a hard one. Absolutely

the best ration for a milch cow is one of the things that "We long have sought, And mourned because we found it not."

There are as many different opinions on this subject as there are dairymen.

This can be laid down, however, as a basic principle: that a cow, like a human being, likes and needs changes of diet, and that variety secures the best results. Corn and hay, clover and fodder are excellent staples, with a variety secured by bran, oil cake, beets, carrots, pumpkins, etc. The general aim should be to give her a portion of solid, concentrated food in the shape of corn, better ground, mixed with other bulky and watery feeds-hay, fodder, silage, roots, etc.—EDITOR AMERICAN



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